



PUBLICATIONS

Vocational Series • No. 4

THE BLIND PERSON AS A COLLEGE TEACHER

by

W. ALFRED McCAULEY

American Foundation for the Blind
15 West 16th Street, New York 11, N. Y.

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By W. ALFRED McCAULEY

No. 4
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American Foundation for the Blind
New York

This pamphlet is one in a series of monographs issued from time to time by the American Foundation for the Blind in an attempt to disseminate information on projects carried out by the Foundation and on present-day services to blind persons. The monographs are classified according to subject into:

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Vocational Series
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Foreword

Over the past two decades there has been a decided increase in the number of totally blind persons who are serving on the faculties of the universities and colleges—public and private—throughout our country. These past two decades have also revealed that there is a shocking shortage of teachers at all levels of education—elementary, secondary, and college.

These two major facts prompted the American Foundation for the Blind to initiate a study relating to blind persons as college teachers in order to present factual material to vocational counselors and to blind persons themselves and in order to help increase the potential manpower necessary to meet the growing shortage of teachers in our nation.

To that end, the Foundation made a professional grant to Mr. W. Alfred McCauley who, at the time of the grant, held the position of Coordinator, Rehabilitation Counselor Training Program at West Virginia University. In his study, Mr. McCauley was ably assisted by an advisory committee of five totally blind college professors. The realism resulting from this working cooperation is reflected in the material that comprises this publication; the Foundation is most appreciative of this coordination of theory and practice. Also, a vast number of college and university administrators who took time to respond to the questionnaires helped substantially to present a realistic picture of current practices. The conscientiousness with which the many blind college professors responded adds honesty and frankness to this report. In presenting this publication, the Foundation hopes that those involved in giving vocational advice to blind persons will find this material to be just as valuable in counseling some individuals *not* to enter the profession as it is in counseling others to enter it.

M. ROBERT BARNETT
EXECUTIVE DIRECTOR

Preface

In this monograph inferences from statistics are freely combined with expressions of judgment based on observations from my experience in working with blind college students and discussions with blind college teachers, especially with an advisory group about the data collected and interpreted in the light of their own experiences. It is the author's purpose to contribute to the resources of counseling and guidance personnel working in vocational advisement of blind persons who need help in realistically assessing their own potential for college teaching careers and to give information about the demands upon blind persons in the teaching role. It is hoped that this monograph will contribute to an understanding of the opportunities and problems.

Debts of gratitude to the many persons who participated in the course of the investigation and preparation of the manuscript can be paid only in a very impersonal manner such as this, because candor compelled anonymity to be promised to both individuals and institutions on whose knowledge and experience we had to depend for freedom in participation. Among those who ought to be thanked by identification are college presidents, vice-presidents, and deans of colleges and universities; the blind college teachers who revealed their experiences and feelings about their teaching task; the managers of teacher placement agencies who expressed their experiences in attempting to place teacher-applicants; and family members, secretaries and friends who performed smaller tasks but nonetheless important to the project.

My gratitude goes to those who can be named, including the advisory committee members: Thomas A. Benham, T. Mumford Boyd, Joshua C. Hubbard, Frederick M. Jervis, and Walter F. Stromer, who critically studied the data in the light of their experiences and reviewed the manuscript; to the sponsoring agency, the American Foundation for the Blind and its representatives, Kathern F. Gruber and Arthur L. Voorhees; and to former faculty colleagues: Dr. Harold F. Gibbard, Dr. A. N. Hofstetter, and Dr. Robert F. Stillwell, who provided critical comment on design and outcomes.

W. ALFRED McCAULEY

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ADVISORY COMMITTEE

Five totally blind college teachers, two with no visual frame of reference and three who lost their sight in adult life but before entering college teaching, contributed invaluable to this study and monograph. They have not conceived their capacity as college teachers and their contribution to this project as representing anything unusual in their performance as blind professional persons. It is the author's opinion that their demonstration of success in their professional roles will give insight to all who may read or use this monograph.

Thomas A. Benham, forty-five, blind at age two, educated in the elementary school for the blind and in public high school; began full-time teaching at twenty-eight; received his B.S. and M.S. degrees at Haverford College and did graduate study at the University of Pennsylvania toward his Master of Engineering degree; has been instructor, assistant professor, and lecturer in physics, Department of Physics, Haverford College, 1942 to date; is a junior engineer and consultant in electronics in industry, and chairman of the board, Biophysical Instruments, Philadelphia, 1956 to date; researched in development of polar record and ultrasonic wave analyzer, sensory aids for the blind, methods for employing blind persons in the electronic industry, development of a guidance device for the blind sponsored by the Veterans Administration, development and design of a magnetic tape duplicator, and use of satellite tracking by the blind. He is a senior member, Institute of Radio Engineers; a member of the American Institute of Electrical Engineers, and the American Association of Physics Teachers. His authorship is represented in such journals as the *North American Veterinarian*, *Electrical Engineer*, *Electronics*, *American Journal of Physics*, and *Radio and Television News*.





T. Munford Boyd, sixty-one, blind at age two, educated in public schools; B.S. and LL.B. degrees, University of Virginia; began full-time teaching in law at age forty-eight; admitted to the Virginia Bar, 1923; practiced law under own name, 1923-1940; judge, juvenile and domestic relation court of Charlottesville and Albemarle County, 1925-1930; member, legal staff, National Defense Advisory Commission, Office of Production Management, War Production Board, Washington, D. C., 1940-1943; general law practice, firm of Christian, Barton, Parker, and

Boyd, Richmond, 1943-1948; chairman, Appeals Board, National Production Authority, Washington, 1951-1952; Professor of Law, University of Virginia, 1947 to present; director and general counsel, American and Foreign Enterprises, Inc., New York, 1947 to present; president, Stettinius Fund, Inc., since 1947; advisory counsel to Virginia Code Commission on Revision of Procedural Statutes, 1952; advisory counsel, Virginia Code Commission on Revision of Motor Vehicle Laws, 1954-1958; author, *Burk's Pleading and Practice*, Fourth Edition, 1952; member, American Bar Association, Virginia Bar Association, Phi Kappa Psi, Phi Delta Phi, and the Commonwealth Club.

Joshua, C. Hubbard, fifty-three, limited vision for mobility only until age thirty-three; educated in small prep school; A.B., M.A., and Ph.D. degrees, Harvard University; began teaching full-time at age thirty-six; instructor part-time, Pomona College and Harvard University summer school; full-time teacher, Connecticut Wesleyan University and Bryn Mawr since 1942, professor of economics; author, articles appearing in the *Journal of Political Economy*,

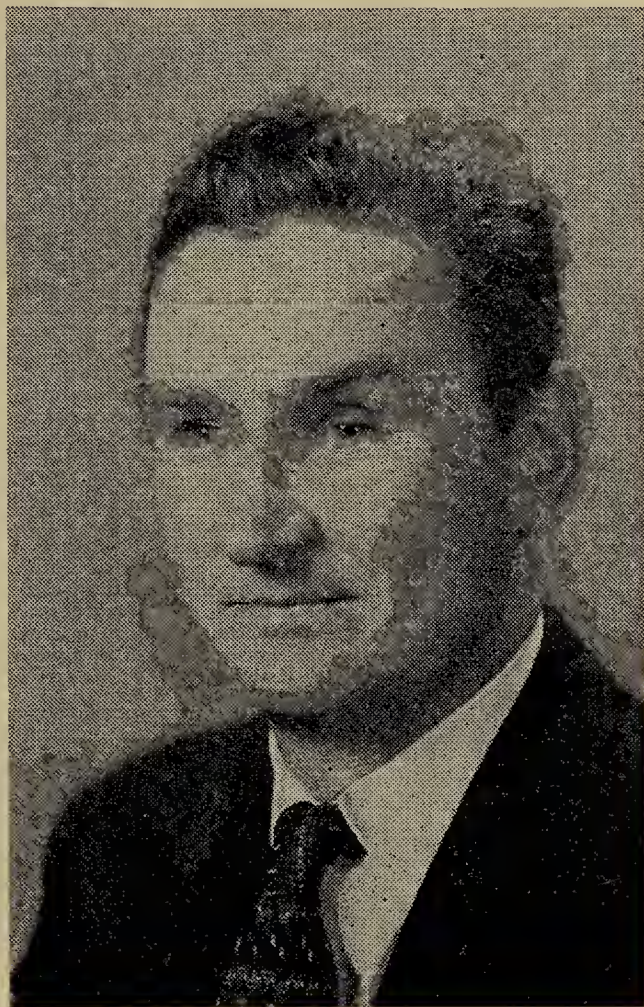


Quarterly Journal of Economics, and *Economic Journal*; Books authored, *Creation of Income by Taxation*, Harvard University Press, and *Basic Ideas of Economics*, Stackpole Company, Harrisburg, Penna.; member, American Economic Association of Phi Beta Kappa.



Frederick M. Jervis, thirty-seven, World War II blinded; A.B. and M.A. degrees, University of New Hampshire; Ph.D., Teachers College, Columbia University, 1958; began teaching at age twenty-nine; clinical psychologist, student counseling center, 1952-1958, and center director, 1958 to present, University of New Hampshire; lecturer, University psychology department, 1954 to present; consultant (industrial executive counseling) Brookshire Knitting Mills and Simplex Wire and Cable Company, New Hampshire; consultant and instructor, summer workshops in special education and counseling: Peabody College, University of

Walter F. Stromer, forty, World War II blinded; A.B. degree, Hastings College, Nebraska; M.A. and Ph.D. degrees, University of Denver, post doctoral work at University of Iowa; began full-time teaching at age thirty-three; assistant professor of speech, Cornell College, Mt. Vernon, Iowa, since 1953, lecturer, summer workshops sponsored by the American Foundation for the Blind; author, articles in *English Journal*, *Quarterly Journal of Speech*, *This Week Magazine*, *Education*, *International Journal for Education of the Blind*, and *New Outlook for the Blind*; member, Speech Association of America and Tau Kappa Alpha.



Denver, Syracuse University; University of Maine; Northwestern University; and San Francisco State College, 1957-1960; researcher and author in *Journal of Psychology*, *Journal of Consulting Psychology*, *American Psychologist*, *Journal of Clinical Psychology*, and author of "Self Description Inventory" (a personality test, copyrighted, 1954); member, American Psychological Association; Board of Examiners for Psychologists, New Hampshire; Advisory Committee in Peripatology, Boston College; Phi Kappa Phi, Phi Delta Kappa, and Psi Chi.

PART I

Introduction

Totally blind men and women teach in several colleges and universities throughout the continental United States. They teach in church-related, other private, and public colleges. They teach in all varieties of degree-granting institutions, including some that have programs primarily technical in nature. They teach in colleges with enrollments less than 200, as well as in universities with over 15,000 students.

As a basis for preparing this monograph, a survey was made to determine the location of blind persons teaching in the colleges and universities in this country. An effort was made to ascertain the types of situations as well as the problems that are involved, both within the individual and within the teaching setting, to determine if performance by the totally blind in this profession can be successful.

It appeared essential to evaluate how blind persons actually perform in the professional teaching role in college. The degree of administrative acceptance of these blind college teachers and the hurdles in entering this vocation were aspects to be assessed. In order to present an adequate picture to those blind students who have the potential and the interest to enter college teaching and to contribute to the counseling insight of those whose guidance may affect vocational choices of blind students, it appeared necessary to understand the adaptations required of blind persons both in preparation for teaching and for successful performance in the profession.

Questionnaires were sent to all the administrators of colleges and universities of the continental United States with curricula leading to all levels of academic degrees. This total group numbered 1380. [17] Eight hundred thirty-five schools responded in such a manner that their contributions could be incorporated in the study.

Application of the chi-square statistical technique determined this sample of responding schools to be representative of all colleges and universities when applied to a distribution by types of control: church-related, other private, or public. It was similarly representative when applied to distribution by level of curricula: single professional degree in four years (II), baccalaureate and one other degree at the master's level (III), various professional degrees including the doctorate or equivalent (IV), and those colleges with primarily technical programs such as optometry (V). [17]

Representativeness of the sample was present in analysis by categories of enrollments which were not more than 200, 201-500, 501-1000, 1001-3000, 3001-5000, 5001-10,000, 10,001-15,000 and over 15,000.

The questionnaire was designed to contribute to understanding of the role of governing boards in faculty appointments, levels of initiating responsibility of institutional administration in making appointments, sources for new instructional personnel, methods of evaluating candidates for employment as teachers, the institution's experience in employing totally blind instructional personnel, and the acceptance by faculty and students of such persons. An effort was also made to get some reaction to suggested bases for rejection of blind applicants and to assess the kind of association that college administrators have had with blind persons in the college setting or outside of it. To ascertain the admission policy for blind students and what curricula were closed to them was one objective of the study.

Another questionnaire was sent to all teachers designated as being blind by sources reporting them in the various states. These sources included directors of state agencies for the blind, agencies of general vocational rehabilitation, associations of workers for the blind, the American Foundation for the Blind, Inc., and the National Federation of the Blind. Eighty such blind college teachers were invited to participate. When death, partial vision, leaving teaching, or declining to participate reduced the list, fifty *totally* blind professors responded.

Seventy-four responding colleges and universities reported having one or more blind teachers on their faculties. Among these

were the fifty teachers mentioned above. A few large universities reported having two blind faculty members.

These questionnaires were designed to obtain in detail the demands and the adaptations that blind teachers have to meet in preparing for and performing satisfactorily in college teaching. An effort was made to evaluate the obstacles to securing employment, performing in it, and to assess the blind teacher's evaluation of student and faculty acceptance.

A third questionnaire was designed as a part of the study to survey the experience of teacher placement bureaus in their efforts in placing blind college teachers. [14]

After the data from these surveys were examined and correlated, an advisory committee of five blind professors met for two days to discuss their individual experiences as compared to the composite picture of experiences of blind teachers reporting, to provide more validity to the study. They were invited to challenge and be challenged by concepts, problems, methods and techniques used by blind persons who have prepared for and performed in the college teaching role.

The information in this monograph is derived primarily from the sources and questionnaires as described above. The monograph is conceived to be useful to college and precollege guidance personnel and workers with blind young men and women in helping them make vocational choices and achieve their vocational objectives.

Need for This Monograph

A review of the literature on this subject reveals that little has been written to date except personal experiences of a few blind teachers or workers with blind persons. [2, 5, 6, 8, and 15]

Lende, [10] in a summary of the professional activities of blind persons, includes teaching among those professions discussed. She found that those who lost their sight after being established in their profession were more doubtful about their profession as one for the blind than those who were blind at an early age and had attained success in it.

Other references not dealing specifically with performance of blind teachers, do contribute some insights in relation to this

project. Bosley has reported the qualifications by frequency distribution in a study which revealed that "professional promise, enthusiasm, vitality, health and professional recognition," ranked highest as qualities sought in teaching personnel in higher education. [3, p. 11]

Woodburne indicated that the most clear-cut statement of personal qualities, for which one college president looked in interviewing candidates for teaching positions, "included the qualities of imagination, ingenuity of mind, and integrity." He reports personnel practices for faculty in forty-six colleges and universities which he visited in a five month period in 1947 and 1948. [19, p. 15]

Caplow and McGee [4] provide an intimate and terse description of such factors as recruitment, selection and personnel appointments, evaluations, and processes in a study of professorial vacancies and replacements in liberal arts departments of ten major universities in 1954-55 and 1955-56. This does not deal with performance of blind teachers but does provide insights appropriate for the precollege or college guidance personnel in learning more about the total college teaching situation than they could learn from experiences as college students themselves.

Much has been written on the problems of adjustment and the operation of social stereotypes that involve blind persons in our society. Hamilton indicates that the terms "physically fit and physically disabled are not adjective descriptive terms, except in their extremes." (9, p. 4) For example, one may suffer from myopia which can be corrected with properly fitted lenses and then be accepted as "physically fit." On the other hand, myopia may be so severe as to be impossible to correct with appropriate lenses, leaving one unable to see adequately to compete normally in daily activities or employment. In such a case, one would be "physically disabled." They are usually applied as loose generalities which vaguely reflect social attitudes rather than abilities or capacities.

It is well-known that many persons with severe disabilities have achieved successful social and economic adjustment. It is just as well-known that there are as many persons with trivial disabilities or no disability at all who have failed in adjustment efforts. Social

attitudes invariably complicate evaluations of abilities of "physical deviates" in such a way as to operate negatively in the employment situation.

A number of books have been written by blind persons reflecting their adjustment efforts and their performance as individuals, but little has been written specifically on the performance of the blind person in the role of college teaching.

Organization of Monograph

Part II is organized to assist the blind student who may be considering college teaching as a vocational objective. It presents the demands to be met in preparation for the teaching role; some of the problems of the blind college student in such preparation; and ways and means of meeting the demands of the actual teaching responsibility as presently interpreted in the American academic situation.

Part III presents problems and approaches to entering and advancing within the profession once preparation has been completed or sufficiently advanced to allow the student to move toward a position as a college teacher. The Appendix contains essential information on resources revealing loans, scholarships and financial aid; references to sources of services for the blind; a statement on the adaptations the blind teacher can make in science and laboratory courses by Thomas Benham; and the complete statements by the American Foundation for the Blind on the responsibility of the blind person in presenting himself for employment.

If an unrealistic idealism is reflected in the monograph, it is hoped that the blind student and his counselor or vocational adviser will understand that all professional persons are likely to interpret an image of their profession as they would like to have society accept it in its most positive aspects; those performing in the profession may actually be functioning at a lesser quality level than the image they support. Visual capacity has nothing to do with such a projection of professional image.

No one can measure in advance the critical factor in success in a profession—the professional's self-image with its numerable variables.

Thus, the blind person has the same right to make mistakes in his choices as the sighted, rather than to be manipulated by an agency or a person at the point of decision to enter college and train for a profession, assuming that he has the knowledge of self to move objectively to a decision in the matter.

PART II

College Demands on Blind Students

It will not be possible to go into much detail concerning the problems that are known to exist in the lives of blind college students, but perhaps touching lightly upon those that are reported frequently will offer guide lines for counselors and sharpen the insights of blind persons who enter college. Many of these problems are suggested without delineating those peculiar to preparing for the teaching profession.

Essential Financial Assistance

Besides the inadequate advisement and guidance that students receive in reaching decisions to enter college in preparation for a profession, there is also evidence of inadequate personal counseling within the college or university setting once the student matriculates. Many students with good college potential are unable to enter upon a college career because of lack of financial support. Funds are available from both private and public sources in support of the well-qualified blind student (see Appendix). Support in the form of loans, scholarships, and traineeships are no less available to the blind student than to the sighted in eligibility. Biases of administrators of such funds, however, may reduce their availability to the blind student. One successful blind teacher insists that "financial aid or adequate funds are a must" for the blind student who is preparing to teach. The implication is that the blind student cannot obtain part-time work and expect to compete scholastically with his part-time working peers. Study techniques require more of his time.

Problems in Matriculation

Because of the attitudes held by some academic advisors and because of personal inexperience in working with blind students, many of these advisors encourage blind students to enter prepara-

tion for vocational objectives without real insight into their own strengths and weaknesses in mental ability, special aptitudes, personality factors, interests, or vocational experience. Many blind students make vocational choices upon having known or heard of another blind person who has been successful in a choice of similar vocations. Many thus choose "teaching of the blind" because they have known only teachers in their exposure to vocational experiences.

Many blind students are allowed to matriculate in curricula in some colleges only to find that some aspects of the curricula are closed to them. This is particularly true in those courses of study requiring a segment of laboratory science. Both the instructor and the student may be frustrated in this aspect of a course, causing the application of rigid restrictions for future blind students or the substitution of other kinds of credit which some administrators are reluctant to substitute in view of curriculum requirements. Some instructors have been guilty of giving unearned credit to a blind student in a laboratory segment by allowing him to take an easier approach rather than take the time or use his imagination in adapting laboratory routines or organizing a good reading program for enhancing learning for him. It is also possible that student advisors, because of the lack of experience and understanding, are reluctant to allow the blind student to enter certain courses where some adaptation would be necessary but still within the capabilities of the student through his own adaptive capacity. Courses in mathematics are an example of this situation. This does not deny that there are practical considerations in some laboratory courses and certain curricula to be met, and it would be better if the student were apprised of those before he enrolls in such a course or curriculum.

Some colleges have definite policies about admitting blind students to certain curricula. Others admit blind students but guide them away from curricula requiring laboratory segments or visual art activities. A few schools (12 reported) will not admit blind students for matriculation. Most of these are teachers' colleges, technical schools, or institutions controlled by religious orders training men for the priesthood. Many colleges indicate they have never had blind applicants for admission and thus have never

faced the necessity to consider policy on such admissions (112 schools thus reported.)

In the Study, 607 college administrators reported that they had no policy which closed any curriculum to blind students. Thirty-one of these reported, however, that they believed that blind students would have difficulty in some curricula such as laboratory science or visual arts.

Among 189 colleges now having blind students reported enrolled, 103 have two or more such students. Six colleges have ten or more such students enrolled. Ninety colleges reported having had blind students previously enrolled but none now. There appears from the foregoing information that blind students may expect to be able to enroll in a college of their choice without much possibility of rejection, all other factors being equal for acceptance in competition with sighted students.

Campus Adjustment Problems

Blind students may enter college unaware that the academic environment may require personal adjustment which the blind student may find it difficult to make. Sometimes, the quality of student relationships on the campus operates to make the blind student sense rejection. If he is overdependent and insecure in normal relationships, he will be overwhelmed in his inadequacies when thrown in more intimate contact, in sharing living conditions with other students, in getting to and from classrooms alone, or in meeting the other requirements of daily living.

Blind students should expect to be required to perform at their highest potential in all aspects of relationships demanded in campus life. This implies that such a student will be able to travel on sidewalks and stairways and move into and out of classrooms with the use of a cane or guide dog. In all of these situations, however, the student needs to have learned the best technique in mobility with the cane or the dog to make his movements the least inconvenient to other students and faculty using sidewalks, stairways and classrooms.

Peer group relations on the campus may be a real test of the blind student to adjust comfortably. Withdrawal from such relations in social and classroom application will reflect negatively on

the adjustment as will the other extreme when the blind student manifests overexuberance or overprojection in such relationships. This means that social skills should be developed to an acceptable level *before* the blind student enters college. Any indication that the candidate for college training does not have well-developed social skills should be sufficient reason for his being required to improve such skills before being admitted to college. He should have manifested skills in communication, mobility, table etiquette, getting and using necessary help, and in the management of the "small environments" made up of persons in his immediate surroundings. There should also be evidence of good personal organization as a part of this pattern of adequacy in personality and social skills required for the campus situation. A cogent comment from a successful blind teacher is appropriate here:

"The blinded individual should strive to make himself as self-reliant as humanly possible. He should expect little, if any, special concession. He should always handle himself in a manner designed to emphasize his assets and de-emphasize his physical handicap. Personal appearance is certainly an important factor along with ability to speak well. With these and other competencies, one should be able to substantially compensate for blindness in the academic field.

Attractive appearance makes blindness less obvious; blind mannerisms, on the other hand, make it more so. If colleagues or students are too often conscious of blindness, it will interfere to some extent with relationships."

Relations with instructors should be kept on the same plane as those of his sighted peers. The blind student will not impose upon the instructor's time or relationships unless the teaching situation requires it. It may be helpful early in the new instructional relations for the blind student to approach his instructor to orient him to his adaptive skills as a student. In this, he would talk about them and display his techniques and practices in preparing for the assignment; in making adaptations in the classroom; in revealing how he uses brailled materials, disk and tape recordings, volunteer or paid readers, braille writing techniques, typing skills, and any other manifestations of resourcefulness that he can reflect as a blind student. It may also be helpful for the blind student to orient the instructor to describing verbally blackboard illustra-

tions or have him pronounce as he writes words and sentences on the blackboard for the entire class. Any display of pictures or other materials without some explanation by the instructor leaves the blind student at a disadvantage. Most instructors who have not had blind students will welcome this orientation. This may require repeated orientation until the instructor becomes aware of the special needs of the blind student in the classroom. Anything which the blind student can do to make the instructor feel more at ease in their relationships is to be encouraged.

Instructors may have to schedule the examinations at a different place from the regular class examination for the student. It is imperative that the student be prompt in meeting the appointment scheduled for this purpose. Objective tests can be tape-recorded by the instructor, allowing the blind student to manipulate the recorder for necessary question repetition until he has satisfied himself about the meanings of questions. This manipulation of the student's recording instrument makes it possible for the student to take the examination with the least amount of inconvenience to his instructor. The student should type his answers both on the essay and on the objective kind of question so that his test paper can be read and evaluated no differently from that of any other student. Any ideas or techniques that the blind student can suggest to his instructor in this realm will be most appreciated.

Reading and Writing Skills

It can be said, without much contradiction, that any blind student who hopes to matriculate in training for a profession needs to have a high level skill in reading and writing braille and in typing. It may be more difficult for a student blinded in adolescence or later life to learn to read and write braille with the degree of skill of one who has been trained in these techniques from early life. Other adaptations in such a case will test the ingenuity and imagination of the college instructor as well as the student. Adequate adaptations, however, can be made even when braille skills may be less than the best. When brailled textbooks or reference materials are to be used and obtained from facilities that provide such service, it is important that schedules be projected at least a semester in advance and such materials reserved or opportunity

provided for transcription *before* they are needed in the following semester.

Because of the lack of brailled textbooks and reference materials in the libraries of most colleges, it is essential that educational advisement of the blind student incorporate knowledge of resources of such material which he may read for himself, either in braille or by recorded transcripts (see Appendix.) Increasingly, brailled and recorded materials are becoming available to the blind college student, but he still will have to depend rather heavily upon reader services from his campus colleagues, volunteers, or paid sources.

It is essential that the blind college student be able to write a good level of braille as well as to read it. He also will need to train himself in sensitizing the hearing-memory-neural patterns to get the most from his listening and be able to summarize without having to record in great detail. It is *not* recommended that a student take recordings of his professors' lectures and try to digest them outside the classroom. It seems more appropriate that he make his braille class notes as he listens to the lecture as would any other student. Any habits that allow his relaxing the mind in the classroom lecture-recording are likely to be undesirable in the long range application of skills the blind student may need in related situations.

Any blind student entering college should be expected to use a typewriter and have his own machine or one available for use at all times. Professors have a right to insist that course papers and examinations be typed by the blind student when submitted in meeting course requirements. Counselors of such students prior to their entry into college should assume responsibility for evaluating this skill and insist that the blind student master it.

Use of Readers

Reading service is often a problem for the blind student, particularly in his freshman year while he is somewhat of a stranger in the campus environment. Many times deans or department heads or directors of student affairs have had prior experience in working in this area of student need and may be able to make contacts for student readers early. The campus student placement

service can also be most helpful in recruiting student readers. It is often helpful if the blind student is able to have enough candidates for reading to enable him to select those persons whose reading ability best fits his standards for listening. Not all readers are able to read with skills that convey the most meaning. The blind student acts as an employer of such readers and it should be understood in the blind student-reader relationship that "hiring and firing" are to be the prerogatives of the blind student. Many blind students prefer female readers because of voice quality, enunciating ability, and reading skills in bringing out meaning in the best manner. Female readers have also been found to take their responsibilities more seriously, keep their appointments more regularly, and seek to make adjustments more quickly without being quite so sensitive to criticism when it is given constructively in meeting reading needs for the blind student. Using readers of the opposite sex sometimes reduces the flexibility in scheduling reading time and place since the blind student cannot easily have such a reader in his or her room at the dormitory or rooming house. Allowing the reader to read to the tape recorder provides flexibility in use of reader service.

Scheduling reading time requires self-discipline by the blind student. Like the sighted student, he finds it easiest to set aside a specific time to study, but when depending on readers, the blind student's time is so organized and he has to work with his readers on "their" time schedule. Sometimes, the blind student finds he is not in the mood for the best listening when reading times are irregular. This requires good adaptability. Intelligent use of the tape recorder can assist at this point of need.

Some students have found that specially adapted braille materials such as writing guides, braille slide rules or auditory circuit analyzers have been helpful in certain college courses. As more and more research is carried out in this realm, more devices are expected to be made available to the student for learning.

In conclusion, when the role of college teaching is studied in relation to the capacities of the blind person who may choose it as a profession, the personal attributes that seem appropriate must be present in the blind person no less than in the sighted. It appears, however, that the blind person must have that something

extra in personality and dedication to his goals to increase his possibilities for success. Even though the blind person may be devalued because he has lost an essential characteristic in surface appearance and sense modality, he will not be so devalued when his adjustment reflects his acceptance of his loss in a new value change which allows his personality to be so attractive that the sighted who judge his efficiency will value him on this basis. It is, therefore, imperative that counselors or guidance personnel give special attention to the quality of the personality of the blind advisee who seeks to enter college for training toward the objective of college teaching. He must have attributes that will enhance his personality and acceptance in training as well as in the later teaching role when he is employed. Personality assessment for such an advisee requires more than a surface look in an occasional interview. It requires a deeper approach to determine emotional comfort; absence of excessive striving for "superficial" values, which reflects nonacceptance of loss; absence of evidence of self-depreciation; and physical and psychological stamina to perform in the college teaching role.

Guidance for such a person also includes assistance in learning to use the best techniques in preparation in training. The blind student should be encouraged to always be on the alert to keep himself at his best pace. Inadequate study habits need to be spotted early and assistance toward improvement in better techniques given immediately. This is an ideal to be hoped for in the guidance of all college students, but unfortunately neither skills in counseling nor the personnel necessary to do the job are available on most college campuses. Unfortunately attention to student problems in this respect, as well as in personal adjustment otherwise, is noted only by emergencies reflected in scholastic failure or gross personality deviations.

Guidance also includes the responsibility to assist the blind student to take advantage of all the helps and aids for enhancing his learning. Assistance in obtaining brailled and recorded textbooks, reference materials, and adequate reader service is expected from the counselor.

PART III

Role of College Teaching

In considering the role of college teaching, or the performance in any other vocation for that matter, one must consider the personal attributes thought or found to be most desirable for the role. These include mental capacity, personality factors, physical skills, aptitudes, special interests, etc. Another factor involves requirements for preparing for such a role, including sources for financial aid, the academic requirements, and suitable training facilities. A third factor includes the understanding of the requirements for successful performance in the role. How do these factors apply to a blind person in teaching?

Attributes Thought to be Desirable

Blind writers previously mentioned and the blind college teachers participating in the Study, have indicated those qualities which they believe to be essential for successful performance in college teaching. Professional promise for teaching includes a large capacity to inspire and stimulate students to pursue knowledge. Such teachers are able to whet the curiosity drive that seems to be present in the human organism and to direct it through demonstrated enthusiasm and creative imagination. This ability does not lie in impressing students but in communicating with them. Therefore, articulateness, with an attitude of friendliness and patience, and a demonstrated fairness in relationships with students are essential.

Scholarly competence involves a comprehensive knowledge of the subject being taught. The blind teacher, with all of the negative social attitudes that operate against him in the social and specific employment environment, cannot afford to be judged incompetent, particularly in the field in which he is teaching. Comprehensive and critical knowledge in his field, however, is not enough. The candidate for a college teaching position should have

a high degree of intelligence and superior preparation as well as a rich endowment of teaching talent and a spirit of dedication to the task if he expects to be successful in the competition which he will experience in the teaching situation. Quality of mind and character is important.

Woodburne has stimulated us to inquire as to the quality of imagination when he suggests that we examine it to see if the candidate prefers to "work with minutiae in his research or insists on considering the scope of language as a means of knowing another culture." [19, p. 15]

Ingenuity is best assessed by the approaches that one takes to a proposed problem and the ability to campaign the limits of each. Integrity of the mind is best observed in the willing expression of conviction on critical questions in scholarship or education in general.

The quality of enthusiasm is not necessarily expressed in a kind of bubbling exuberance that may be seen in the personalities of many of us, but rather it is a characteristic reflecting optimism toward life in general and toward obtaining knowledge as the best preparation for adjustment to the environments within and outside of oneself. Enthusiasm does not incorporate the ability to sell one's biases with the most vigor but rather to present all issues in the subject with equal emphasis. Quality of vitality is found in a personality which is fairly free of mood swings, which includes constancy in effort rather than sporadic attempts, and which reflects a degree of health which can be appreciated by both students and fellow faculty members as adequate for a stimulating association in the learning situation.

Professional recognition is often demanded by employers before serious consideration is given to a potential teacher. This implies that high quality references from within his field of specialized knowledge and from those in association with him in writing or research will vouch for the personality and integrity of the candidate. This implies also that the candidate reflects good professional and personal ethics as the characteristic of his pattern of living and in applying his knowledges and skills.

Qualities reported by successful blind professors as being most desirable in persons aspiring to teach are similar to those de-

scribed above. However, these blind teachers used more descriptive language in attempting to convey those attributes that they felt most important. Classification of these attributes and qualities is made here without any suggestion that they may be appropriate within one classification and not another. Their inclusion in specific areas has been arbitrary. It is hoped this will not offend any who might feel differently about their appropriateness in classification.

When asked about the essential personal attributes in themselves and in blind students who want to become college teachers, respondents reported as follows:

Qualities of mind or intellect—

- reasonably high or superior intelligence or natural ability
- good memory and power of concentration
- ability to conceptualize
- imagination
- creativity
- ingenuity

Qualities of personality—

- self-confidence
- tendency to extrovertism
- optimism
- infinite patience
- cheerfulness
- zest for living
- some aggressiveness
- adaptability
- emotional stability (adjustment to blindness)

Qualities of character—

- strong determination and industriousness
- perseverance
- spirit of independence
- thoroughness in work habits
- desire to be useful
- courage
- tact
- sense of humor
- high morality

Quality of physique—

- poise
- pleasant voice
- good appearance
- good mobility
- spatial orientation
- good skills in typing and braille

Qualities for inter-personal relations—

- approachability
- ability to communicate effectively, orally and in writing
- ability to communicate in terms of a sighted person's experience
 - with understanding of the viewpoints of the sighted
- courtesy
- friendliness
- sincere interest in people
- understanding the problems of the physical deviate in American society
- ability to avoid registration of sensitivity to blindness

Additional reported qualities for teaching included "a positive talent for teaching," "interest in youth," "wide knowledge and love of subject," and "ability to systematically arrange and organize materials necessary in the teaching situation." Because of demands peculiar to the performance of blind persons in social and vocational relationships, and equally applicable to the sighted in the concept of total efficiency, the adjustment pattern acceptable in the teaching role is important.

It appears appropriate at this point to incorporate part of the statement of the American Foundation for the Blind concerning blind persons and fitness for competitive employment.

The employment of any person in any job or profession is usually predicated upon the ability of that person to meet the current academic, experience, and competency prerequisites for the job. In the instance of a blind person, there is usually an evaluation of his demonstrated ability to meet the specifications of the job with efficiency equal to that of any individual employed in the same capacity. The Foundation believes it is desirable that this evaluation focus on the ability of the blind individual to meet the demands of the job or profession *as a whole* with full realization that while a blind person's methods may differ occasionally from the usual, the end result should always be satisfactory performance. This principle recognizes the individual

differences in competencies, skills, and abilities of persons regardless of physical handicap.

The Foundation is aware of the fact that sometimes employers or employing boards are not familiar with the performance of persons who happen to be blind. It is natural that these employers sometimes confuse the basic vocational competencies of blind persons with such other skills as mobility, ability to keep current on literature pertaining to the vocation, ability to maintain records, etc. . . . The performance of duties ancillary to the basic vocation is the direct concern of the blind person entering the vocation, and that in choosing any vocation as a career, a blind person must automatically assume the responsibility of working out techniques and adaptations that may be necessitated by his blindness. Self-assumption of this phase of responsibility by a blind person will do much to help potential employers distinguish between the really basic competencies and those other skills that may loom so large to the uninitiated and may become artificial but, nonetheless, a very real barrier to employment. Further, the Foundation emphasizes the fact that personal problems caused by lack of sight are strictly the concern of the blind individual and are not to be imposed either upon the employer or colleagues. [1]

This statement presupposes that those candidates for the vocation of college teaching should have adequate personal adjustment to meet the demands of the job. Successful blind college teachers, by their reported experiences, reinforce the merit of this statement.

Many blind students have received inadequate counseling from those persons to whom they turn for assistance in reaching decisions in vocational choice. There is little doubt that many blind persons who had good intellect and who were able to get into college have been encouraged to stay in the academic program and to move to higher levels of knowledge in some areas without any real insights as to how they would use this knowledge in later vocational application. Many blind persons have become the "perennial college hangers-on" because they have been unable to face the task of obtaining employment (or were not adequately supported in their efforts by counseling or placement personnel) or have continued in school under the illusion that much more education would enhance employment opportunities. Some of these students have had no alternative but to enter college teaching in order to use the specialized knowledge they obtained. This they have done

without a realistic personal appraisal or a consideration of their qualifications and characteristics for the teaching role by their mentors. In this they are little different from many sighted students.

Eckert and Stecklein, [7] reporting on a study of factors in the choice of college teaching as a career among a representative sample of Minnesota college teachers, reveal that college teaching is not a career which most college students choose in early college life. Twelve per cent did not reach this decision until late in graduate study or after completing their highest degree.

Personal factors which were most commonly mentioned in leading to choice of a career in college teaching included: "a keen desire to work with college students, intellectual challenge of the job, an intensive interest in a particular subject field, and attractive working conditions." [7] The most frequently mentioned external factor leading those individuals into college teaching was an unsolicited job offer in it. Only 27 per cent of those responding acknowledge that their mentors had talked of this career choice with them.

Among those choosing this objective in undergraduate years as compared to those choosing it late, more were majoring in humanities or biological science; more had received scholarship or other financial aid; and more had been elected to honor societies. [7]

Blind students are similarly involved as they make choices for a teaching career.

Preparation for the Role

Reference has already been made to some factors that lead blind students into college teaching. Logan Wilson has described many factors in the academic situation which give insight into the values in the social and economic aspects of college teaching which attract persons to enter it as a vocation. Such include "reasonably secure tenure, public esteem (sometimes overplayed as a sop for low pay), pleasant work surroundings, sufficient leisure for pursuit of personal interests, and so on." [18] The blind student, like the sighted student, would no doubt identify with many of these values. The preference of some persons to work with personalities of

youth rather than adults, and to move from the rigorous competitive employment environment by entering the environment of working with ideas, is similarly found among blind persons. It would be impossible here to name all the reasons why blind persons gravitate to teaching, but the reports of blind teachers themselves may be illuminating. Five such persons indicated that they were encouraged by their college mentors to move into preparation for college teaching. Fifteen reported "a strong desire to teach." Other comments with substantial support are illustrations. Not all are positive.

"Personal appreciation of learning new knowledge with stimulus of the youthful viewpoint and a joy of leading people to think."

"I thought about teaching way back in elementary school. I didn't like factory work, vending stands, dictaphone operation, or agricultural work."

"I had a desire to render social service on an intellectual level."

"I wanted to associate with physically normal people rather than with other handicapped people."

"I accepted a position in order to finish my doctoral dissertation and am still here."

"A misconception that blindness would present a minimum handicap in this occupation."

"Achievement of social status, economic security, preference for academicians to business or other vocational groups; felt there was less prejudice in the academic world (tho much exists.)"

"I liked mathematics; I felt I had the personality for teaching; math teachers are in demand, affording good prospects for employment."

"History was my easiest subject and I realized that teaching was the only thing I could do if I majored in it."

"I was interested in scholarship, and in university life in general."

Certainly the motivations underlying the decisions of blind students to enter college teaching are not a great deal different from those of sighted persons. However, some pertinent observations from blind college teachers may be appropriately passed on to the student. They should be weighted by counselors or guidance per-

sonnel in the light of all known facts about the potential candidate for teaching.

“One should not attempt college teaching without a Ph.D. He should attempt to do research in areas where there is a possibility of publishing results. Try to attend an institution where there are opportunities for student assistantship while doing graduate work. Be prepared to meet pettiness and prejudice in academic circles.”

“Blind students must have a degree of creative imagination in order to devise routines and devices to compensate for the handicap.”

“Choose some other field unless richly endowed with teaching talent.”

“In deciding upon a career, blind persons should give more consideration to whether it appeals to *them* in all of its potential than whether other blind persons have obtained jobs in it.”

“It is important for a blind person in his profession to be personally attractive in a general sense.”

It has been observed that college teaching like other work of an intellectual nature favors the attributes of the person with a verbal mind and skills as contrasted to one whose mind handles mechanical or motor functions more easily. This is a consideration that should be evaluated by guidance personnel as a cue if articulateness with abstract concepts as well as concrete descriptions can be established as an attribute of the blind counselee. This ability alone, of course, is not sufficient for the decision to suggest college teaching as a vocational possibility. Creativity and imagination supported by motivation for sticking to one's goals, and measured by past performance through high school with all its activities are qualities to be assessed in addition to intellectual ability.

Functioning as a College Teacher

To be able to do a job well, the college teacher must be accepted by his colleagues as well as by his students. Because of the stereotypes that operate in the attitudes of both faculty and students with regard to blindness, the newly employed blind teacher will feel more comfortable if at the earliest possible moment he can feel himself accepted. One finds that stereotyped attitudes are just

as prevalent among educated peers and administrators as among the ordinary social groups. Relationships are apt to be somewhat awkward unless faculty has had prior experience with a blind faculty member. There is some hesitation to speak and evidence of embarrassment in the situation, and casual social relationships may be fewer. This may be true even after acceptance. This retarded acceptance is due largely to the lack of experience on the part of sighted persons. It may even react to discount the blind teacher's ability.

Many times faculty colleagues are likely to overestimate the extent of the handicapping effect of blindness, thus displaying the reaction that one could not be competent in every aspect of his performance if he has lost one of his senses. Temporary isolation of the blind teacher may result. If he is personally well enough adjusted to take this rejection in his stride, his colleagues will learn to know him and his capacities much better. Some of the blind teachers responding in the Study make comments such as these that are applicable:

"The blind teacher needs to read and write more so that he can exceed his colleagues in ready knowledge of his subject."

"Blindness increases the need for overlearning in competition with the sighted teacher."

In relationships with his faculty peer group, the blind teacher will make every effort also to put his colleagues at ease. This ability has usually manifested itself long before this time in the social skills the person has learned and used in his relationships as a student.

Relations with Students

Student acceptance is also likely to be slow in the early teaching experience, particularly as the professor meets each new class. Students, too, see blindness as making one incompetent and thus may have anxieties around professorial acceptance as well as professorial competency in the classroom. Some feel that cheating would be easier in the presence of a blind professor and relate this feeling to attitudes of incompetency; or they may experience anxiety as they see themselves in competition with others where their

values may be in conflict. Others feel that difficulties in communication may be enlarged. Some feel that grades may not be fair. Still others feel that "anything will get by" since the blind professor cannot easily discipline persons involved in problems in the classroom.

Successful blind professors teaching in this country point out consistently that it is the responsibility of the blind teacher to put both his colleagues and his students at ease in relationships as early as possible. This means that in the classroom situation, his conduct reflects that he has accepted his blindness, is adjusted to it, and merely asks to be treated as any other human being. Any remarks that will let the students know that the professor is at ease with his own blindness and expects the students to be, will be appropriate in the situation. A sense of humor comes in very well at this point, and when the blind professor makes mistakes because of his blindness, he should encourage his students to feel free to set him straight.

In the pages ahead, we hope to point out how the totally blind professor functions in all aspects of the requirements of his professorial role. By looking at his adaptations, we shall be able to understand how efficient such persons can be in the usual routines of the job.

Preparation for Classwork Presentation

In preparing for his class assignments, the blind professor may have some limitations in the amount of good recorded material either in braille or on types of audio-recording. Here he may have his wife or other readers read his material in the textbook and references while he listens and makes notes. He prepares his assignments no less efficiently than the sighted professor who would make and use his notes in longhand or have them typed. Some professors have their textbooks brailled in advance of their courses, in which case the blind teacher can read from his brailled text just as the sighted teacher reads from his printed text. In any event, he is able to take his notes to the classroom and use them just as any professor would in lecture or discussion or other teaching techniques. Dittoed or other prepared materials or diagrams

for distribution to the class can be prepared for the blind professor just as for the sighted.

The blind professor will have invested in a library of his own just as the sighted professor. It is to be recognized, however, that the expense to the blind professor may be greater because of the additional costs of braille as well as of recording. Good materials are needed and, therefore, he has to be careful in his efforts to find the best material available if he is to make an out-of-pocket purchase and adapt these items for his own personal needs. This additional cost is an economic consideration in the teaching position for the blind professor which is not present in the position for the sighted professor. Adapted materials alone may cost extra, as much as the printed book, and this is indeed an important factor in the economic aspects of the job. It is urged that the blind teacher make notes as he reads a book and then catalog and file them for future use rather than attempt to transcribe the total book into braille and use valuable storage space for the material.

Certain subject areas require more reading than others to keep abreast of colleagues and to reflect continued expertness. This is particularly true in fast changing fields such as electronics as compared with the slower changing literature in economic theory, for example. This, however, is a problem which the blind teacher must recognize in his decision to enter the teaching profession, and thus, it should not be held against him in consideration of competencies for the teaching task. To keep abreast of changing knowledge in his field and to attempt to make mental notes to be used in his lectures or class presentation, he should rewrite his notes with the new information incorporated. Time spent in this process pays off in reputation as an alert and knowledgeable professor.

The blind professor is expected to keep abreast of the literature in his field just as much as his sighted colleague. The breadth of reading that is required may be less in the specialized aspects of a subject in which a blind teacher could perform in the larger universities as compared to the broader requirements when teaching a subject in the smaller college where he may have to cover greater breadth of material.

In the Study, 124 administrators indicated their decision to re-

fuse employment to a blind teacher because of their feeling that he could not read widely enough. Many of these administrators also indicated that they had had no experiences in using blind teachers in college teaching and were projecting their attitudes on no actual knowledge of such performance.

Successful blind teachers are aware that reading as much or more than colleagues is required. These comments reflect their feelings.

"I am usually ahead of my colleagues in reading of current journals in my field."

"Hours that others may use for leisure, I use in reading to keep abreast of the literature in my field."

Blind candidates for teaching must recognize this demand and be psychologically prepared and willing to invest the time, energy, and money to read sufficiently widely to compete successfully with sighted faculty peers.

For the blind teacher to do as much of the preparation from his own resources as possible has the effect of enhancing his own self-concept, reflecting personal efficiency admired by his peers. To be able to hire and fire help or assistants and to arrange for other services is also an aspect of the same concept. Universities take a better attitude toward self-sufficient blind teachers when they are able to handle their own affairs competently.

Comparing Demands in Variety of Institutions

It should be recognized that demands upon the blind teacher in small institutions, as compared to large educational institutions, is a factor that has to receive consideration. In the small college, help from clerical assistants may not be as available as in the larger institutions where professors may have their own private secretaries or may share with other colleagues in the use of secretarial aid. Also in the smaller institution, there may be more demands in the breadth of the teaching task than in the larger institution where the professor may be able to specialize in a narrower aspect of his teaching subject. The breadth of reading and preparation may be no less in either situation, but the blind teacher in the small school may have to depend upon more resources of his own since many of the libraries in such schools do not have available materials nor the budgets with which to buy them for his use.

In the larger teaching institutions one may be able to have his own personal subscriptions to journals and professional magazines provided by the college budget. In the smaller institutions, the professor is more likely to have to provide these personal subscription costs from his own pocket. In either event, to have the material at one's fingertips in his own personal library or at his desk is most helpful.

There are other advantages and disadvantages in the small versus larger institutional settings. For example, in the larger institutions, more demands for research by the professor may be made, while in the smaller institution, he may find himself doing more teaching with less emphasis upon research. The professor in the large institution is involved less in total day-to-day activities of administrative nature as compared to the requirements of the smaller school where broader application of routines, laboratory and other professorial involvement is required. It is possible that in the smaller schools there is greater flexibility and more freedom in performance in classes and courses. Large institutions have departments that operate like self-contained small schools. In either situation, however, the range of activity narrows as one becomes more experienced and advances further in the hierarchy within his department or college. More money is also likely to be available in the larger colleges or universities for student assistance which may be helpful to the blind professor.

In both the large and the small school, it is important that blind teachers keep close contact with blind colleagues or other colleagues on other campuses in his teaching field. He may be able, thus, to pick up their ideas and new suggestions for handling his course material and structuring new techniques for presenting it to his students.

His need to write for publication, whether motivated from his own self-concept as a teacher and researcher or from subtle or overt pressures from the academic administration, may differ in the academic climate of the small school as compared to a large one. Publication may be considered as an important factor in administrative evaluation of professorial performance. Sensitive writing on controversial issues or topics may be an avenue to enhancing favorable colleague opinion and status for self.

Classroom Techniques

The performance of the blind professor in the use of techniques and methods in the classroom is not a great deal different from that of his sighted colleague. He will use lectures, discussion, drill, student reports, film and film strips, except that he would use a student in the latter activity. Lecturing from his notes just as any sighted teacher would lecture or guide the discussion is a simple technique for the blind teacher. Some blind teachers indicate that they memorize their notes although this is not absolutely essential.

The Blackboard

The blackboard is normally used more by the sighted than by the blind teacher. Perhaps nothing creates more anxiety in the blind teacher than the prospect of having to use the blackboard. Fears here have their origin in facing up to inadequacies not present in sighted peers (many of them are also inadequate at the blackboard!) However, if the blind teacher orients the students to his blackboard performance and to his personal techniques, student acceptance will come more readily.

Hopefully, the prospective blind teacher will learn blackboard techniques and refine them prior to presenting himself for employment. He may learn to print if he is not comfortable in writing. Preferably, if he has writing skills, he will maintain them by practice. Using one of his fingers as a point of reference in writing, or using a crack or blackboard junction, is useful. Finger span for spacing lines operates as a guide in blackboard writing.

When asked to check possible bases for a decision to refuse to employ a blind teacher, 210 college and university administrators, or about one fourth responding, indicated "inability to use adequate variety of teaching techniques, such as blackboard, charts, graphs, etc." This is an area of performance holding high importance in the attitude of administrators and cannot be dismissed lightly, even though there may be adequate adaptations made in certain techniques by the blind teacher to demonstrate competency in teaching demands.

Of course, the use of the blackboard by the blind teacher is not necessarily demanded in actual practice. More often a student is

asked to construct a diagram, a formula, an equation or an involved drawing copied as directed by the blind teacher. The student can also be asked to participate still more by being prepared and willing to carry the explanation of diagramming as it relates to class discussion. Complicated drawings are usually duplicated and passed out to the class to save presentation time by *any* professor. Some blind professors use cardboard of heavy and large size on which they have prepared ready-made graphs and curves or diagrams with brailled identification so that they can be stored and brought into the classroom at the appropriate time. One blind professor of physics advises that he uses a plastic material called "Relievo" extruded from a tube. This is available in a variety of colors and provides a relief effect which he can follow with his fingers when it is put on bristol board for his diagrams, charts, etc. (Details about such materials and aids can be obtained from some state departments of special education since these materials are used by teachers of blind children, or from the American Foundation for the Blind.)

Discipline

Some administrators have posed the argument that the blind teacher is not able to handle discipline problems, nor would he be able to understand the response and acceptance of his students. One blind professor advises that when the pace of the classroom discussion seems to be lagging, he asks specific questions. Now, of course, he doesn't know whether the student may be spellbound or asleep when he does not respond, but by predetermined seating of students or by the use of seminars around tables with controlled seating, the blind professor has a kind of control in knowing where his students are located so that he is able to judge when they are in a position to respond.

Examinations

Administrators often raise questions on how a blind teacher could perform adequately in the routines of administering, proctoring and scoring examinations. A high proportion see this as an area of inadequacy in the classroom.

Most blind professors report that administering the type of ex-

amination that can be read by readers for the professor's evaluation is the easiest for them to handle. Others use sighted assistants in proctoring examinations. Others encourage the use of the honor system.

It has been said that cheating on a blind teacher has great psychological exposure to censure by fellow students. This may be a factor in dampening the temptation to cheat although we must recognize that it will not stop cheating entirely.

When using students to assist in administering and proctoring examinations, the student should not be a member of the class taking the exam, nor should he be in an inferior role or position to the class. This means that the student assistant should be an upper classman or a graduate student when working with lower classmen or upper classmen respectively. It would be better if he were identified in the minds of students as the blind teacher's student assistant. Some blind teachers feel that they prefer to sit with students during an examination even with the student assistant present.

Student assistants may read the answers with no interpretation as a part of the scoring process with the blind teacher. To avoid criticism from administrators as well as from his own faculty peers, it would seem more appropriate for the blind professor to make every effort to score all his own examination papers with whatever assistance he needs. He has to be aware that if he is sharing secretarial aid with his faculty peers, he is really not in a position to demand more of her time than his proportionate share in this examination assistance. The secretary should not be used for routines by the blind teacher if she is not required to serve similarly other colleagues in such routines. This is an area of responsibility in which the blind teacher has to anticipate administrative objections before they are posed and advance a reasonable answer for handling the routine.

In personal interviews with successful blind teachers, it was found that using a family member or a volunteer in the administration and proctoring of examinations was felt to be inappropriate and subject to legitimate criticism. The use of a teacher's wife in sharing the scoring responsibility when answers were read to her blind husband was judged to be appropriate, however.

Checking Attendance

Checking attendance has been a routine challenged by some college administrators because they feel that the blind man can not adequately carry out this function. Successful professors reporting in the Study indicate that they use a variety of techniques. One group brailles the class roll on an individual card for each student and is able to identify by voice and location of the assigned seat when the student responds to his roll call. Other blind professors have secretaries or student assistants check the class roll against prior signatures. Of course, in some colleges it is not necessary to check the attendance roll after the first day. Particularly is this true at the graduate level. Some schools use the honor system and, thus, reduce the need for checking on attendance.

Laboratory

Performance in the laboratory aspect of a course presents formidable challenge to the blind teacher. This may be the basis for the feeling of many blind teachers that blind persons having college teaching as a vocational objective, ought to avoid specializing in fields requiring laboratory responsibilities. In most colleges and universities, many of the laboratory courses have student assistants assigned to aid in the laboratory processes. This relieves the blind professor to supervise the general direction of the laboratory work once he has made sure that student assistants are adequately prepared to carry out this assignment. One well-known blind professor of physics, however, is sufficiently competent to perform very adequately in the laboratory and in research. He has no visual-image memory but he has superb tactual-image memory. (See Benham's article in Appendix for suggested adaptations).

Library

Use of the library would pose a difficult problem for the blind professor as interpreted by sighted peers. Blind professors report that books are checked out routinely by a family member or secretary or student assistants and read to him like any other book. As more and more reference material is brailled, this becomes avail-

able for professors to read directly without the use of assistants. Some recorded material for use on the talking book is available, and some professors allow readers to read for their recorders and play the tapes or records back as a part of the reading process. This technique allows for flexibility in the use of both the reader's and blind teacher's time.

Reserve books should be used when students are not using them. The library could be asked to provide a reading room or a space where a reader and recorder or a reader alone could be used. Through personal relationships it is usually possible and acceptable to arrange with the librarian for exceptions to routines.

The use of government documents, particularly, may be difficult for the blind teacher unless he has assistance. Even sighted professors sometimes need this help when they search the library. In such library use, most librarians are willing to cooperate and are very helpful in working with the blind professor.

Another problem that the blind teacher must meet is the use of microfilm. Here, he may have difficulty in moving the machine or in scheduling when others are also using the same machine. He needs a sighted assistant to read the material from which he may make his own braille notes. Matching schedules for help with access to the machine has to be achieved.

The problem in reading vast amounts of material in the library is indeed formidable for the blind professor. More effort has to be expended advantageously by the blind professor. Most successful blind teachers report that the reading is done for them by student assistants, a secretary, wife, or family member or others. Essential books and materials are put into braille. Tape recordings on articles are made for later review. Usually, however, the more professorially advanced or experienced the blind professor is, the less personal demand there is upon him for direct research and the more opportunity for him to share it with assistants. Once he gets to the point of directing the effort of others in research, his job becomes easier. Students may peruse and compile references, catalogs, abstracts, digests and indices for the blind professor. Payment for such aid may be within or outside of the departmental budget. A disadvantage in reading for research is in the blind teacher's inability to browse in the library. Titles, tables of con-

tents and indices in books may furnish leads when a student assistant reads them with the professor.

Statistical procedures can be handled on work sheets designed by the blind professor. Student assistants will normally fill in the work sheet and any worker trained in the use of the calculator can carry out the operations with conservation of time, costs, etc. A blind professor organizes his writing in manuscript just as does any other teacher.

Assignment Off-Campus

Another aspect of the teaching role involves work off-campus. Most large colleges and universities carry on extension teaching programs which necessitate the professor's leaving the campus for outlying centers and locations where he will teach. This seems to pose a difficult problem in the minds of administrators and colleagues. However, as the departments are more organized, the demands upon the more tenured professors for this kind of service decreases, it appears. We find, too, that some blind teachers do carry on extension classes. One such person reported teaching extension classes in five different cities, traveling alone by bus or taxi over as many as 300 miles per week. He may hire his own driver or have a driver provided by the college or university. This may be one of his student assistants assigned for this task. Of course, in many colleges, this assignment is relinquished by the blind teacher and assigned to the sighted faculty members without any undue risk of criticism, particularly if the blind professor can take other campus assignments releasing his colleagues more for this service. Working on committees may be such a service.

Committee Assignments

It is not unusual for the blind college professor to be assigned to work on master's or doctoral degree committees. In these situations, the necessary reading is done for the blind professor by his usual reader services. Sometimes he serves only on oral examinations. In many situations, of course, he may not be asked to participate at all. One professor reported that as a blind teacher, he was secretary to the committee on graduate instruction where he had to work with degree committees. In this case, he made his

braille notes with his wife helping him with the records at his office or at his home.

Student Advisement

In the function of student advisement, the blind professor performs no differently from his colleagues. Perhaps he needs to know the school catalog more thoroughly in educational advisement. Here, he attempts to operate by appointment and is able to study the student's folder or record before the appointment. He normally tries to avoid those assignments requiring immediate reading and evaluation of records or other information. Many students prefer to have blind teachers as advisors once they have established rapport. It appears easier to talk to the blind teacher since the student feels that his blind advisor does not visually recognize the student being interviewed. There is a kind of anonymity about the situation, yet there is rapport. Some of this same relationship can be found operating in small group seminars also.

Sponsorship to Student Organizations

In the function of the blind teacher in sponsorship to student organizations, we find him performing not much differently from his sighted colleagues. The student voting perhaps in such organizations is done by voice instead of by the raised hand unless there is reason otherwise for a secret ballot. The professors in the Study indicated that they performed in this role no differently from the sighted sponsor. One even serves as an advisor to a student newspaper. Another serves on the editorial board for a college magazine but finds no special adaptation required. Others write articles for publication no differently from their sighted colleagues when the sponsoring organization demands such an assignment.

Campus Mobility

Another area where some objection is raised by administrators in hiring a blind college teacher, is in their evaluation of the mobility of the individual in the campus requirements. This may be more imagined than real, but the manner in which some blind teachers handle themselves in moving about the campus may be a legitimate basis for criticism. We find that guide dogs are often

used. Others use canes. Some rely on the self without the cane or dog. Others depend upon assistance from colleagues, students, or family. There are certainly valid objections to the improper use of guide dogs and cane. Blind teachers, or other blind persons, have a responsibility to the sighted to orient them early to the fact that they are blind. This means that any improper use of the guide dog in taking more than the fair share of the sidewalk, stairway, or hallway is unfair to sighted colleagues and students. Similarly, proper cane technique is important since avoiding collisions, and proper sharing of sidewalks and stairways is involved.

The Seeing Eye, Inc. of Morristown, New Jersey, indicates that not all blind persons can or should use dog guides, but for those who qualify, the dog provides a safe, rapid and efficient means of travel. At experienced dog guide schools such as the Seeing Eye, Inc., certain criteria have been validated in the selection of those most likely to succeed with a dog guide. Age, physical condition, coordination and balance, temperament and mental capacity are among the principal considerations.

Chosen from the working breeds and for basic qualities that equip them for service to blind person, dog guides are not permitted nor do they need to run loose outdoors or indoors, except as the owner may give the dog the freedom of his own quarters. A dog guide serving a college professor, for example, should be under the desk during classes or in the office. It should lie unobtrusively beside its master during faculty meetings, in the chapel, the dining room or wherever else the blind person may need to be in performance of his professional or social obligations. Both a leash and a harness are attached to the dog, each for a specific purpose. A quick pull on the leash or verbal remonstrance is administered by the owner whenever necessary to restore the desired behavior pattern. It is not cruelty.

In the hands of a capable blind person, the dog guide has demonstrated its ability to adapt to many situations. The dog can become a liability, however, if the owner fails to provide consistent discipline, patience and understanding. Educators should be the first to realize this. University officials will be performing a service if they call a colleague's attention to any laxity on his part in controlling his dog. If this cannot be done tactfully, assistance may be

obtained by communicating with the organization that provided the dog.

Some colleagues may object to having a guide dog in the office location. This, if it is a real problem, should be handled in the easiest possible manner, even to the extent of learning the use of the cane in preference to having the guide dog in the situation. Most people, however, will not object to having a well-behaved, well-groomed dog in their midst.

For the new professor on campus, it is essential that he learn orientation to the campus as soon as possible. This means that he should spend much time in learning his routes to classroom and office locations before having to present himself to his colleagues on a regular basis. In this way, he will reflect a kind of competency which may surprise his colleagues and enhance his early peer relationships. Every administrator or department head likes to have his faculty "look sharp," and this has an essential meaning for the blind teacher who is not always able to judge his own appearance. Since he represents the university to all who come in contact with him, the blind teacher ought to reflect a positive stimulus rather than a negative one to all whom he meets. Clumsiness in mobility on the campus detracts from his appearance and the positive stimulation. Orientation to unfamiliar areas of the campus before the time the blind professor needs to actually become involved in such areas routinely is a good technique in mobility.

The blind professor needs to act in all honesty when he does meet real obstacles in his mobility. This same problem is important to the blind teacher when he has to move away from the campus in professional meetings or other types of traveling assignments where he also needs to reflect a great deal of personal competency in mobility. He needs to be constantly aware of the feelings of the major sighted groups with whom he has to work and to whom he has to relate in his travel about the campus or in his travels away from the campus.

Use of Sighted Persons

Another area of sensitivity required in the performance of the blind professor's role pertains to his use of sighted helpers, including his family members, his secretary, his student assistants, or any

others who may be involved in the helping task. In our culture, it is appropriate for wives to share in contributing in meeting the family's economic needs. The involvement of wives of blind college teachers is to be considered primarily in this light as they help their husbands in reading, in typing and clerical routines, in assisting in scoring examinations, in record keeping or in any other practical manner in which the wife can contribute to the husband's performance.

We know that most college administrators prefer married professors if they are employed above the instructor level. How the wife of the blind teacher is used in assisting the wife-husband-team role should not be important to the administration so long as it does not interfere with the departmental functions and relationships with the blind teacher's peer group. The teacher who uses his wife in the academic situation should see his wife in no other light than as a wife, remembering that the essential responsibilities in the task are his entirely. Although she may be helpful in his managing some routines of the teaching role, she cannot be expected to assume, psychologically or physically, responsibilities which the college administration normally assigns to her blind husband as the teacher.

She can be and should expect to be an asset to him in his social contacts and economic pursuits just as the wife of any other university teacher in our culture. The economic contribution she can make is very positive on the basis of reports of single and married blind teachers in the study. It costs the single teacher more for services which a wife could normally provide in the teaching responsibilities of her husband. Similarly, the use of a secretary is appropriate in limited circumstances.

In studying the contribution of the secretary to the performance of the blind college teacher, we have found that she may be of assistance in reading, in usual clerical routines, and in other such appropriate situations as the blind teacher may find necessary. However, to avoid peer or administrative criticism, the secretary should be asked to do little for the blind teacher that his sighted colleagues would not require if her skills are shared by his colleagues. Anything that could be interpreted as an extra demand, such as reading, proctoring examinations, or other activi-

ties, should be avoided unless she is the private secretary of the blind teacher. The alert blind teacher will take his cue from his colleagues in evaluating how they normally use a secretary's time.

When student assistants or those who volunteer aid are allowed to perform in relationships in helping a blind college teacher in his routines, consideration must be given to the fact that subtle pressures can be placed upon such a student by his own peers by asking for unfair advantages and favors. It is felt that a student in a class should not be asked to perform in ways that would not normally be used by other colleagues. This is a problem of human relations in knowing how to ask for help and how to register appreciation in the most appropriate way. Student assistants are being used a great deal in our colleges and universities. Other disabled professors as well as nondisabled professors require student aid in ways in which the professor-student relationship may contribute a great deal to the student. In this Study, the majority of blind professors do not use students in the normal class work routine. Some, however, do use them in evaluating speeches, or oral reports, operating film or film strip projectors, doing some blackboard writing and demonstration, or handing out or collecting papers. It is felt that students who are asked to read or otherwise assist the professor in preparation for or in carrying out major routines as student assistants, should be paid as helpers either by the professor himself or through administrative procedures. When students are used in a fee relationship, their services usually are rendered in reading or research activities, in making recordings, or in administering or proctoring examinations. Some occasionally are used in other appropriate routines.

In the use of persons for recording or braille material, it is observed that more blind professors use them in tape recording a textbook, magazine articles, or special reference notations. Some use volunteer braille transcribers. With the additional services at the national level in both public and private agencies for the blind, it is found that many of these agencies are able to develop transcribed materials for not only blind teachers but also blind students.

It would seem appropriate for blind students going into the teaching profession, as well as into others, to learn to use these

public and private facilities for recording and transcribing early in their learning experiences. This kind of contact early in student life will carry over into the performance of the blind professor as a teacher, although the services are most limited for the professor.

Occasionally the services rendered to blind teachers by their professional colleagues may be a source of criticism or devaluation of the blind teacher. Our experience indicates that the blind teacher should demand no more from his colleagues than he can render in reciprocating services except perhaps in emergencies. It is difficult to know how far to let people go in being helpful, particularly after becoming acquainted with colleagues who truly desire to be more helpful. It is necessary that the blind teacher not offend in any refusal of help.

There are some areas in which we find inter-personal relationships contributing mutually to both the helper and the helped. Some blind teachers report that their colleagues may read an interesting article that they want to share in their field of work. Some may read essays which are being rated jointly. Some may assist in grading papers. Occasionally a professor may read an examination for the blind teacher or proctor. Occasional assistance in personal and group conferences or providing advice and helpful criticism are appropriate outcomes in any personal or professional association. In any case, the blind college teacher should not impose on colleagues or unduly solicit assistance in carrying out his responsibilities.

It has been found that in a few situations, volunteers or volunteer groups may assist the blind teacher. In these situations, the services usually involve contributions as readers. It is felt that in no situation should volunteers outside of the professional teaching role or official university circles be used in the classroom routines. This would include administering and proctoring and scoring examinations. It is felt that the responsibility for the class work routine should be kept in the hands of the personnel of the college or university rather than with volunteers coming in from outside the university community.

In summarizing the contribution of the variety of services in the teaching task of the blind college teacher, the economic aspects

involved become important. In the study of annual costs paid for help in the performance of the duties of the blind college teacher, a range from a low of \$50. to a high of \$1200 per year was found. The unmarried teacher paid out more. Only a small group of respondent blind teachers indicated that they were free from some expenditure. The average annual expenditure among those reporting amounted to \$462.00 a year. It is clear that the blind teacher will be required to obtain assistance in some aspects of the performance of his role, but this must be considered to be the responsibility of the blind teacher in a manner no different from that of a lawyer or any other professional person who has to employ additional assistance to broaden and strengthen his role of service. College administrators need to keep this concept in mind when they attempt to rationalize that employing the blind college teacher puts him at an economic disadvantage in comparison with his sighted colleague. This is a choice to be made by the blind person when he chooses to make college teaching his professional career. It is well that the teacher reflect this when he senses this resistance at the time of his interviews for employment.

It is well known that activities outside the classroom situation are demanded of college teaching personnel. Professional and civic activities are a part of the role in the American academic community. In the Study, a number of blind professors responded that they participated in civic activities which drew upon their professional knowledge in consultative services for which they may or may not be paid a fee. Eight of those participating indicated that they were more active than their departmental colleagues in this sense. Some blind professors take advantage of opportunities to teach adult education classes in their specialty fields. Some participate in courses for industrial personnel or civil defense courses sponsored by the government. Such teaching opportunities offer avenues to help change the social attitudes toward more positive acceptance of the blind professional person outside of his academic setting.

The blind professor belongs to civic organizations and participates in those organizations the same as his sighted peers. We find many of these blind college teachers holding offices in civic, fraternal and professional groups with which they are identified.

About one fifth of the number reporting belong to the American Association of University Professors and one is a local chapter president. Most blind college teachers belong to councils, societies, or associations identified with their special subject area such as the American Musicological Society, The American Economics Association, The American Political Science Association, The National Teachers of English, etc. At the time of the Study, fifteen such professors held offices in these organizations. Such offices included presidencies of state associations or local chapters, vice-presidencies, secretaries, chairman of specific departments, consultants, etc. Other respondents reflect activities in scouting, church work and PTA, sharing these activities with sighted colleagues.

It is well-known that college administrators evaluate the performance of candidates for a job or for promotion in relationship to the extent of their service in civic and professional activity at local, state, and national levels. Some administrators hold this equally important when compared to the usual educational credentials, publications, and other aspects of the candidate's background and preparation in the employment process.

Even the avocational interests of the blind college teacher are important. Such activities as playing bridge; chess; activity in church work; collecting various types of materials such as firearms; fishing; gardening or golf; ham radio; handicrafts; hiking; landscaping; lecturing on travel; making repairs about the home; record collecting; piano tuning; recreational reading; scientific activities for the blind; social welfare work; swimming; woodworking; and writing—all find place in the pattern of interests and activities reported by blind college professors. It is normal for every blind college teacher to find a way to contribute to his own pleasure in activities outside of his academic role and yet continually refresh himself for better emotional and physical participation in it.

Conclusion

In concluding this section, it appears that in the actual teaching responsibility, the blind teacher cannot expect, nor should he expect, any special consideration from administrators or colleagues

except as it may accrue in long term relations. Even here he should be aware of every implication that may seem to give him an advantage. Advantages can be turned to disadvantages in the academic competition if they can be demonstrated to have accrued from a basis of special favor because of blindness. In the college teaching role, the blind teacher is expected to contribute, produce, and compete on the same basis as his colleagues. If he cannot enter the job sufficiently equipped and motivated to do so, he cannot expect to succeed in this profession.

There are many adaptations which the blind college teacher can make in carrying out his teaching responsibilities that will make him as effective as his sighted colleagues. Some of these adaptations may put him at some disadvantage economically; but if he accepts this fact and still seeks to enter college teaching, then teaching may really be his fortunate choice.

PART IV

Entrance and Advancement in the Profession

Problems in Job Application and Interviews

In seeking employment in college teaching, the blind applicant is penalized by the operation of stereotypical attitudes among department heads, deans, presidents and boards of directors by whatever title they function. There is plenty of evidence that an education, even at its highest application, does not eradicate biases and behavior that devalue the person who is a physical "deviate." This may be the expected behavior in a culture which values so highly the "body whole" or "body beautiful." Also, the great valuation placed on productive capacity in citizenship is the basis for negative stereotype when there is the least suspicion that a person cannot present intact sense modalities and a complete human body to the performance of such citizenship. Even though we value the personality of individuals in the Judeo-Christian ethics of our democratic society, we seem not the least bothered by our dichotomous convictions or behavior in actual relationships. Since this behavior usually operates as an obstacle to employment, it is necessary that the blind teacher-applicant consider some factors in the job application, entrance process, and movement within employment as a teacher.

In order to ascertain the extensiveness of the use of formal application forms by colleges, the Study sought information on the use of these and solicited copies of same. Two hundred thirty-four colleges indicated that a formal application blank was used, and 167 forwarded samples. Four hundred ninety-five reported that they used no application form of their own. Others did not respond to this question. This picture is compatible with conclusions of Caplow and McGee when they found that "most universities do not have a standard application blank which is suitable

for preliminary candidacies . . . or for candidacies initiated by someone else other than the applicant.” [4, p. 248]

Examination of these blanks submitted revealed that 69 per cent inquired about physical defects. Practically all inquired of health status.

It was revealed that the same general ratio of church-related, other private, and public controlled schools in the country required the use of their application forms. However, the four-year colleges with only a bachelor's or one professional degree curricula required a higher ratio (50 per cent of those reporting) of the use of their application forms. This reflects the heavy coloring from church-related schools whose administrators or boards seek to screen applicants for teaching positions who may appear incompatible in their religious and personal philosophy of life. Many of this type of application required the applicant to signify his acceptance of a statement of credo in the application. By classification by enrollment categories, 60 per cent of the sample applications came from schools with less than 1000 enrollment which is approximately the same percentage of this classification of colleges responding in the Study (59 per cent).

Hurdles in Application for Job

Many successful blind teachers reporting in the Study felt that a major hurdle in consideration for employment was definitely in the application process. The prospective teacher is caught in the dilemma of withholding the fact that he is blind, hoping to get an opportunity for an interview and an opportunity to sell himself, or revealing his blindness and having his application rejected without further consideration. In other words, if the blind applicant reports his blindness at the time of application, he may never get beyond this point because of rejection by administrators who may otherwise consider his candidacy highly. On the other hand, if the blind applicant fails to note that he is blind in his application, and he is later called for an interview, the relationship is strained and equal rejection can operate because of his falsifying the application procedure. It is necessary that the blind applicant be absolutely honest in his facts and feelings in the application and other processes in getting into a college teaching situation. It is

suggested that the application be accompanied by a letter or additional page setting forth how the blind applicant would handle certain anticipated situations in which the administrator may normally think him to be inadequate. It is possible when these objections are anticipated and met in advance, that new insights may arise in the mind of the employer. Some of his biases may be overcome by a forthright suggested approach to handling situations foreseen by him as being insolvable by the blind applicant. Any experience which can be reflected as an asset related to teaching is to be encouraged in making application.

Many professional associations now operate a placement service in conjunction with their annual conventions. Applications and credentials can be submitted to these and personal interviews arranged if the blind teacher has travel funds to attend. Here the blind person can meet department heads or college and university recruiters before he submits an application directly to the college of his preference for teaching. It also offers him the opportunity to see more college personnel seeking teachers than at any other point in so short a time.

Some blind professors feel that successful experience in teaching in their graduate student status is one which can be a positive assist to overcoming negative stereotypes. Some would insist that blind graduate students seek to enter only those colleges which will provide such an opportunity, and deliberately include this as an objective in entering graduate school. If one can reflect successful teaching experience, administrators accept this as evidence of being able to take larger responsibilities in this role.

Recruiting College Teachers

It may be appropriate for the guidance of blind teacher-applicants to know what sources for teaching personnel are used by colleges and universities in the employment process. The information which at this time seems to be fairly accurate indicates that most colleges and universities recruit their personnel from a variety of sources as reported by Bosley in order as follows: "college placement bureaus, direct applications, recommendations of the graduate faculty of higher institutions, commercial teacher agencies, and scientific societies." Infrequently mentioned sources in-

clude: "recommendations of our own faculty members, state department field contacts, other college presidents, our own successful graduates, etc." [3, p. 3]

This Study reveals that college administrators use sources for recruitment as follows when based upon a normalized-rank from a matrix of frequencies from our data: contacts with graduate schools, suggestions of own institutional faculty, college placement bureaus, direct applications from candidates, own academically advanced students, teacher placement bureaus, and registers of professional societies. The first four sources are used two to three times more frequently than the last three.

This pattern of use of resources by administrators appears to reveal no cues by which a blind teacher-applicant might strive for an advantageous point from which to make application for employment. One important factor is surprisingly revealed, however. The suggestions of faculties as sources for leads mean that being known as a person of caliber for college teaching offers excellent avenue in the employment process. This may have more success potential for employment than contacts with unknowns by the usual application or through college placement bureaus, although it may operate through the placement bureau. The importance of faculty as source of suggested leads was emphasized in the Study of how successful blind college teachers obtained their present placement.

It was revealed that five of the group reporting had been students (usually as undergraduates) in the college where now employed. Seven knew a colleague on his present staff before being employed. Ten had friends or relatives who were employed either in administration or some other capacity in their present college at the time of their employment. This represents a total of 44 per cent who had someone in the present college staff who knew the blind teacher personally before he was employed there.

Knowing Others Helps

In order to try to evaluate the intensity of the operation of stereotypes by administrations in the employing situation, we attempted to ascertain whether blind persons, (not necessarily

college teachers) were known to deans, department heads, or executive officers. In those colleges and universities reporting having totally blind faculty members, one president had known three blind persons as students, another president had been the student of a blind professor, a third president had worked with three blind teachers as colleagues in his experience, and a fourth president had known a competent blind professional man. Among the deans, one had known two blind students, another had worked with four blind teachers as colleagues at one time or another, and another dean had a competent blind uncle. Department heads had similar experiences. One such head had known eight blind students; another had two blind colleagues in his experience; another had had a blind classmate; five department heads had otherwise known competent blind persons.

One blind teacher had been a colleague of a faculty member. Eight other administrative personnel had known blind persons and had influence in the employment decision. It does, indeed, appear that blind teachers have opportunities for employment enhanced if someone in administrative responsibility or faculty has known competent blind persons. Of course, we must acknowledge that experience with incompetent blind persons or teachers reinforces rejecting biases and stimulates prejudiced action toward employment of blind teachers, other factors being equal.

Some experienced blind teachers feel that there is status advantage in their employment efforts if they have graduated from a high status graduate school. This advantage is equally felt by sighted teachers and actually operates no differently in the employment approach of either groups.

College administrators were asked if they knew unsuccessful blind college teachers or those who prepared for but failed to enter college teaching. Sixteen knew one such teacher, seven knew two unsuccessful blind teachers, and 725 reported knowing none. Eighty-seven did not respond. Successful blind professors knew more of their blind peers who failed or withdrew from teaching. Seventy-five per cent of those responding knew blind persons who prepared for but failed to get positions. One blind teacher knew ten such applicants. Only six knew blind teachers who had withdrawn from teaching after having been employed. Causes of fail-

ure or withdrawal were not revealed although comments from two administrators and a blind teacher are pertinent:

"He had a 'wooden Indian' appearance and failed to adjust to demands of the classroom."

"One whom I knew could not communicate adequately to students."

"Wife was not able to assist him sufficiently in research efforts during rearing of their small children; neither could he get promotion without research and writing."

To allay some feeling among blind applicants and sighted guidance personnel that there are specific policies operating against the employment of blind college teachers, we can report that such was not found to be the case. College administrators reported no legal barriers against hiring a blind teacher. There may be some states which have an educational policy barring blind teachers in elementary and secondary schools, but none of these states applied this to state colleges or universities.

Who Influences Hiring Decisions?

In an analysis of the roles of governing boards in faculty appointments, in a large majority of situations, approval of the college executive's recommendation or confirmation of his appointive action, predominates as a pattern in the board responsibility. The implication here points to the board as being no hurdle in the process of appointing a blind college teacher. In studying the *initiating* responsibility in making appointments of new faculty, it appears that policy varies more in terms of size of college than in the type of school control. It varies also with the level at which a new employee is recruited, whether it be at the instructor or assistant professor or at higher professorial levels. The predominant pattern in the Study revealed that the dean and president have initiating responsibility in the church-related types of college control. This group also has more schools in the lower enrollment categories so that administrative practice by necessity is in the hands of these two persons in employing new personnel.

The deans and department heads are more involved in the other private type of college control, while the department head

is the more important person in the publicly controlled colleges in initiating appointments of new faculty. Of course, this pattern varies some with the size of the college also. The further removed the initiating responsibility for employment is from the appointing authority, the more hurdles are involved in the blind applicant's selling himself as a potential employee.

Whom Administrators Want

College administrators, when reflecting their philosophy of education as related to competency of personnel, indicate that promise as a teacher ranks first. Critical ability in the subject to be taught ranks second, and research ability and reputation ranks third. This order holds for all types of control, whether they be church-related, other private or publicly controlled schools. This pattern varies in some types of schools or departments where research ability is a first prerequisite. Scholarly competence may be assumed to include all three characteristics, depending upon the frame of reference of the judging administrator. Large universities appear to demand teachers with research potential while smaller colleges, without equipment and space, cannot emphasize this requirement so readily in selecting personnel. This does not mean, however, that they prefer candidates as teachers who have had no research experiences.

It should be pointed out that promise as a teacher may have different meanings to different administrators, but the common characteristics acknowledged include capacity for growth in knowledge of the subject area; ability to communicate to students, including quality of voice and use of physique; outgoing manner, and ability to inspire the students. It must be acknowledged that research ability does not guarantee promise as a teacher, although many researchers are competent teachers. Any prospective blind college teacher with less than exceptional personal adjustment and skills to meet the competition for employment can expect difficulty in reflecting promise as a teacher. Comments of successful blind college teachers reinforce this concept.

“Study the latest and most efficient devices and techniques to enhance teaching skill. Secure the best quality graduate preparation possible. By your demeanor, your writings, and your oral dis-

course, win the confidence of your professors as to your professional skill and competence.”

“Attend a graduate school where assistantships or internships in teaching in the college are available and encouraged as a part of one’s preparation. Attendance at ‘status’ institutions for graduate training may contribute to acceptance in employment effort.”

Critical ability in his specialized subject area implies that the potential blind teacher has breadth and depth in his field and will be able to read to keep up with the newest developments and changes in knowledge. This aspect of teaching can be a real challenge in swiftly changing fields as new research reveals new insights and knowledge.

Skills at Interview

It is always to be hoped that the blind teacher-applicant can have a personal interview with the appropriate administrator, at which time he would normally expect to reflect his best potential. In the interview situation, there is often an awkwardness at first contact that is seen as a weakness by those administrators who don’t know blind persons. The administrator may be embarrassed, feel sorry for the applicant, or aggressively rejecting, depending upon his attitudes and experiences (or lack of them) in relationships with blind people.

It is most essential that the blind applicant have skills in putting strangers at ease and in manipulating his “little environments” without reflecting nervousness or ineptness in such social situations. He may have to practice for such an interview through role-playing with a skilled guidance person, and work through his own feelings and evaluate his strengths and weaknesses in presenting his best assets. This is appropriate preparation for such an interview even by a sighted candidate with a doctorate degree!

Many administrators make their evaluations of a candidate on the basis of their observations of his behavior in the interview. There is value in demonstrating one’s independence and mobility when going for an interview if the situation can be so structured that one can function gracefully in such a demonstration. Such competence may impress the college administrator positively. It would appear appropriate for the blind applicant to have a sighted friend or wife accompany him to the interview, someone with

whom he is most at ease. Preferably, this person would be one who is normally competent in new social situations and still does not "take over."

The blind applicant must be constantly aware of the feelings of others and particularly must be oriented to the experience of the sighted individual. In preparation for this monograph, college administrators were asked to project reasons why they might refuse to hire a blind college teacher. Two hundred twenty-two, or more than one fourth responding, frankly admitted they would probably refuse to employ a blind teacher because they had had no prior experiences with blind teachers. Other reasons have been previously mentioned to include inability to use sufficient variety of teaching methods, laboratory techniques, etc. Only eight felt that the blind teacher could not adequately perform in research, and only twenty-six felt that student acceptance would be a problem. Thus, much of the rejecting attitude lies within the preconceptions of administrators as to what a blind teacher would be capable of performing. It is to be anticipated that these objections may come out in the interview. The blind applicant, anticipating this, should reveal to the administrator how he performs efficiently as a teacher and as a person, hopefully before any objection arises, to forestall the objection rather than have it expressed and then enter into an argument for his values as against those of the administrator, requiring the administrator to be on the defensive. For example, when the question is raised by an administrator about his getting about the campus, it is the responsibility of the blind applicant to point out that he has handled this orientation in his prior college adaptations as a student and can do so here without belittling the administrator's sincere concern for his safety. One administrator in the Study felt that "heavy winter snows, continued cold, and slippery sidewalks would be a real hazard for a blind teacher at this college in winter"; and in the light of his experiences and attitudes toward blindness, his sincerity cannot be questioned.

Opportunity Fields

Another problem arises in the employing process. This relates to the field selected by the blind student as his teaching specialty.

Blind college teachers perform in a variety of subjects including these reported: business administration, economics, English, geology, history, languages, law, literature, mathematics, music, philosophy, physics, political science, psychology, religious education, speech, sociology and others, including medicine and psychiatry, where the professor became blind after teaching as a sighted person. More blind teachers specialize in social sciences and the humanities than in other subjects. In the Study, the majority of the blind instructors reporting taught in these so-called "verbal" fields although some others taught in the exact sciences.

Twelve of these blind teachers had no vision at birth or lost their sight before the age of five. Thus, there appears to be no great hurdle deriving from the time of blindness as it affects thinking with visual imagery, since visual memory does not seem to be necessary for success in learning and grasping concepts and concrete information at the college training level, except perhaps for some students in mathematics. The humanities and social science subjects appear easiest for the blind teacher to learn and teach in view of prevalent teaching methods; they are also fields in which there is most competition from sighted teachers at the master's or doctoral level in college teaching.

It is hoped, indeed, that the blind teacher-applicant can be employed on the basis of his mastery of subject matter, personality, and ability to communicate just as any sighted teacher. However, there are hurdles as herein presented that the blind candidate must acknowledge and prepare to meet in his efforts to compete with sighted candidates in the employment process. Some of these hurdles have basis in realism for screening applicants while seeking the best candidates; others emanate from preconceptions about blindness and from unconscious sources as the sighted administrator seeks his own adjustment in what he sees demanded in his role. He is no different from any other employer in this sense as he seeks personnel to do the job about which he has definite conceptions.

Problems in Advancement

After the blind teacher is accepted and enters the college departmental structure, he still has the problem of obtaining acceptance

by his colleagues as does any new faculty person. This acceptance usually comes through his demonstration of adequacy as a professional person. Relationships described elsewhere in this monograph operate from this point also. Blindness most often interferes in personal and professional relationships where the blind teacher permits it to interfere because of his own inadequate adjustment. It is recognized, of course, that attitudes toward blindness operate no less from sighted colleagues than from society in general, but the blind teacher can do much to help reduce or change these negative attitudes, depending upon his own insights, emotional comfort, and understanding of the behavior of the sighted in their relationships with blind persons.

Positive results in early acceptance may hinge upon the degree of personal efficiency which the new blind teacher reflects in his orientation in his new surroundings. Having "cased" the new location, learning avenues or access routes to it, and something about the names and background of his colleagues from his administrator before presenting himself formally at his desk for the first time, should provide sufficient information to enhance the introduction process with his immediate peers. Any techniques which the new blind teacher can use for reducing reinforcement of negative attitudes at this time is most essential to early acceptance.

Such a problem as handling an excessive degree of solicitude, knowing just how much help to accept or reject without getting trapped as one moves to more sufficiency in the new situation, is to be expected. Reflecting confidence which inspires, especially while forthrightly admitting the limitations of blindness, is the proper approach. This requires a quality of adroitness if one is to convey a proper sense of what sighted colleagues may expect of the blind teacher and what he can expect of them. This sense embraces relationships with administrative personnel such as secretaries, or departmental assistants, as well as colleagues. Comments from successful blind teachers point up this problem of acceptance:

"It seems self-evident that at the outset one encounters some difficulty due largely to lack of experience on the part of sighted persons."

“Particularly when colleagues first knew me, they hesitated to ask me to do things which they would ask of a sighted colleague.”

“As elsewhere, occasionally treated as an inferior.”

Rather than leave this aspect of acceptance on a negative note, it must be pointed out that the great majority of respondents, both administrators and blind teachers, reported no problem, indicating no major hurdle in faculty acceptance.

Tenure and promotion are goals which every college teacher incorporates among others in his role. The prospective blind teacher-applicant certainly expects fair and unbiased treatment in attainment of these goals if he is employed. Even if he is accepted and feels at ease in the departmental relationships, there is no assurance that he will always get consideration for promotion on the same basis as colleagues. There may be justified reasons why the blind teacher is passed in promotions, but certainly he should expect they should not relate to blindness per se.

Of all successful blind respondents only one reported that he lost promotions because of blindness. Nine others commented that colleagues had advanced around them, but promotions were only delayed rather than not forthcoming. The majority of those reporting indicated that they received promotions when deserved.

Other factors affecting tenure and promotion include the degree held, further study, writing, research, and number of years of teaching. To appreciate the representation of these factors in the experience of blind respondents in the Study, we reflect them here.

Respondents reveal that eighteen had master's degrees with additional graduate study, thirty-two had doctoral degrees.

Ten had the rank of instructor, eight were assistant professors, sixteen had associate professorial rank, and eleven were full professors in their respective colleges. Five did not report rank. Four were chairmen or heads of departments.

Twenty-two of these successful blind teachers began full-time teaching in their age decade of twenty to twenty-nine; fourteen started teaching at thirty to thirty-nine; three began from forty to forty-nine. Eleven were teaching only part-time and carried administrative, research, or other responsibilities (including educational leave) at the time of reporting.

Length of teaching experience from the beginning of full-time teaching among those responding included six who had been teaching one to three years, four who taught three to five years, eight taught five to ten years, nine had ten to fifteen years experience, seven had fifteen to twenty years, and ten had over twenty years. Others reporting taught only part-time.

The level of subject matter taught is not a factor in promotion and is related more to the type program in the size school in which one teaches. Twenty-five of the respondents teach only at the undergraduate level; four teach only the graduate level; twenty-one teach at both levels.

It is not known in the Study what opportunities for movement among teaching locations were experienced by responding blind teachers. It is known that some have been in their present locations throughout their entire teaching careers. It is expected that there has not been movement equal to that of sighted college teachers because of the negative forces operating against employment in this vocation just as in most vocations or occupations in which blind persons seek employment.

It does appear that opportunities for further study, research, and writing are available to blind teachers no less than sighted colleagues when administrative policy encourages and reinforces efforts to engage in such activities. A sizeable number of respondents indicated that they were doing further study with part-time teaching loads and some were on sabbatical leave.

Remuneration and Opportunity

Like all changing economic values in this period, salaries in college teaching are changing. Although this change varies from region to region and within types of college control and size, there is an upward trend. Trends have not been as swift in upward movement as salaries or income in many other professions and occupations which are more directly related to the inflationary spiral in our economy, short and long range.

Ruml, in a study with Sidney Tickton for the Fund for Advancement of Education titled "Teaching Salaries Then and Now," reveals that in liberal arts colleges fifty years ago an annual salary of \$3000 was good and not uncommon. Allowing for changes

in cost of living and federal taxes, and assuming a professor with a wife and two children in 1953, the professor would need \$11,200 annually to have equivalent economic status. He concludes that "the economic position of top personnel in the liberal arts colleges has been downgraded in the past fifty years." [16, p. 48] Ruml does not see projections for pay and professors in the prognostications for soaring production, shrinking working hours, rising health, etc. for 1976, the two-hundredth anniversary of our Republic, as envisaged by the economic series of the Twentieth Century Fund, National Planning Association, The Council of Economic Advisors and others.

Comparison of Salaries

At the risk of dating this monograph, it may be enlightening to report the findings of Dr. Ray C. Maul, [11] assistant director of the Research Division of the National Education Association, titled "Salaries Paid and Salary Practices in Universities, Colleges, and Junior Colleges, 1957-58."

In this Study in which 77 per cent of all degree-granting institutions participated, the average annual salary was \$6015 or \$772 higher than the median salary in the 1955-56 period. An article in the New York Times, dated March 6, 1960 and titled, "Colleges Losing Fight for Quality," contributes additional comparable data from the latest survey of the National Education Association Research Division. The median 1959-60 salary for college teachers of all ranks was \$6711. This represented an increase of 6.7 per cent over the previous year.

The median salary of men teachers, who make up 80 per cent of college faculties, was more than \$1000 higher than that of women—\$6906 to \$5865. Only slightly more than 10 per cent of all teaching positions paid \$10,000 or more. The rank of instructor, which is that at which new teachers usually begin, had a median salary in 1957-58 of \$4562 or about the average of the public school classroom teacher's salary; in 1959-60 it was \$5095. A fourth of all instructors received less than \$4600.

It appears to be typical that when salaries are increased in a particular college, a flat percentage increase is applied across all ranks. This technique in operation provides the greatest monetary

increase to those with highest professorial rank. Maul points out that “an 8 per cent salary increase to a professor with an \$8000 annual salary means more than twice as much as an increase of 6 per cent to a professor with a \$4600 salary.” [11] Thus, it may be observed that a college teacher’s rank in a major way determines his salary.

Where he teaches is also a most important factor when information is studied in the following table as revealed in Maul’s report. [11]

TABLE I

<i>Type of Institution</i>	<i>Salaries in 1957-58 Two Year 1955-57 Increase</i>	<i>% Increase</i>	<i>1957-58 Median Annual Salary</i>
State universities	\$721	12.8	\$6370
Land-grant colleges	730	13.4	6188
Non-public universities	591	10.6	6176
Teachers colleges	685	12.7	6086
State colleges	890	17.8	5882
Large non-public colleges	588	12.4	5344
Median non-public colleges (500-999 enrollment)	688	15.6	5099
Small non-public colleges	529	13.0	4610

Summer employment is available to some college teachers, but this cannot be forecasted as a usual source of income for professors as a group, especially in liberal arts or small colleges. Quoting again from Maul’s report: “Although over 80 per cent of colleges reporting in the 1957-58 survey have summer programs, only about 4 per cent offer summer employment for all faculty.” [11]

Those departments offering professional courses for school teachers and the comparatively few other students who extend their college programs in summer school, most nearly operate with staff opportunities for summer teaching. It is known that summer sessions may pay relatively less than regular term teaching. The above quoted report indicates that 44 per cent of the colleges reporting do so.

Certain fringe benefits are now available in college teaching. Such include teacher retirement, health service at reduced cost, hospitalization insurance, sick leave, faculty housing, etc. These benefits are not uniform nor are they present in most college situ-

ations. The trend for their availability for the future is positive. Certain cultural and entertainment advantages, although not fringe benefits, are found in convocation programs, special lectures, art film series, athletic events at reduced rates, etc.

Thus, the blind student who aspires to teach in college needs to choose the setting which not only offers the best competitive opportunity for employment but also the best income potential. The temptation may be to seek that type of institution paying a lower initial salary where the academic reputation and experience will enhance his opportunity for a better paying job. He must not forget that sighted teachers take the same rationale, and competition may be no less.

Opportunities for college teaching in the next decade or longer are foreseen to be most favorable for anyone having the attributes and seeking that objective. The changing technology, the status factor, and other such sociological influences are operating to increase college enrollment if our society's economic advance continues. The blind aspirant to college teaching as a career should have his opportunities enlarged as the problem of increasing college enrollment presses upon our society. Again the remarks of Dr. Maul are enlightening as he spoke in New York University's

TABLE II
Teaching Fields in Greatest Demand

<i>Subject-Field</i>	<i>Number Needed by 1970</i>	<i>Per Cent of Total* Doctorates Earned 1957-58</i>
English	35,000	3.7
Education	32,000	18.0
Engineering	30,000	7.0
Biological Science	25,000	13.0
Business and Commerce	22,000	1.0
Foreign Languages and Literature	22,000	2.4
Mathematics	17,000	2.3
Chemistry	16,000	10.0
History	15,000	3.3
Physics	12,000	5.0
Economics	10,000	2.4
Political Science	7,000	2.0

* U. S. Department of Health Education and Welfare, *Earned Degrees Conferred by Higher Educational Institutions*, 1957-58, Office of Education Circular #570, May, 1959.

13th Annual Higher Education Conference, December 6, 1958, when he revealed that "425,000 new college teachers will be needed between now and 1970 to provide for an expected college enrollment of 6,000,000 students by that time." [12]

He suggested that the fields of greatest shortage and the quotas needed are as follows: (Percentage of 8942 doctoral degrees earned in 1957-58 in these fields is significant.)

Maul further stated:

The number of top-level graduates, those who earn the doctor's degree in the *next ten years*, will be no more than *half* the number needed next year [*italics mine*]. . . . Of those who enter new occupations upon graduation, two of every five take jobs in noneducational fields, chiefly industry and government. It seems inevitable, therefore, that the per cent of college teachers to have this most comprehensive training will continue to shrink. [12]

This picture will no doubt motivate many of our colleges and universities to gradually shift their programs to graduate level instruction, leaving to others and the junior colleges the responsibility to offer the preparation of undergraduates, particularly at the freshman and sophomore level. This will have the effect of enlarging employment opportunities in colleges at both these levels for the well-qualified blind teachers.

In 1954, according to Dr. Maul, [13] 40.5 per cent of the total full-time college and university faculties held doctoral degrees, and 10.4 per cent were teaching with less than a master's degree. With a diminishing number of doctor-degree holders in proportion to the increasing demands, colleges of our country are truly facing a serious problem in obtaining sufficiently adequately trained teachers with doctoral degrees.

In 1953-54, 31.4 per cent of new college teachers had their doctor's degree. In 1956-57, only 23.5 per cent of such teachers held that degree. Those holding master's degrees and newly employed in 1953-54 were 18.1 per cent, while in 1956-57 they were 23.1 per cent of new teachers entering college teaching. New teachers with doctoral degrees appear to be declining while those with master's degrees appear to be increasing when seen in percentage of faculty additions in American colleges.

The largest source for such personnel were graduate schools,

while high school teaching and business occupations were the next sources in order of percentage rank. Since both high school and elementary schools have a higher ratio of women teachers, it is expected that women will find more opportunities in college teaching, although presently this is predominantly a profession for men.

In most subject fields there is opportunity for the teacher with a doctoral degree to supplement salary with fees for additional service or research on or off campus. However, the type college, its size, and administrative climate may affect the potential for the teacher to engage in such activity.

Consultation services to private enterprise, governmental agencies, and research teams offer opportunity for additional income for teachers in some colleges. Here, again, the administrative policy and teaching situation will definitely influence one's ability to take advantage of such opportunities. The larger colleges and universities usually will have more requests to contribute personnel to such endeavor.

Summary

In conclusion, it can be said that college teaching offers a challenge to our best talent among young men and women of the future, be they blind or sighted. When those who are blind can present personal adjustment, the attributes for teaching, and evidence of quality preparation, they should reasonably expect to receive consideration for employment as positive attitudes are increased by the constant educational effort of all who are interested in helping the blind persons in our society become contributing citizens. College teaching appears to hold definite promise for those qualified blind persons who seek to prepare for that profession.

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APPENDIX I.

Source Materials

Financial Assistance to Students in Higher Education

U. S. Government Printing Office, Washington, D. C.:

Scholarships and Fellowships: A Selected Bibliography,
Bulletin 1957, #7, by Richard C. Mattingly

Financial Aid for College Students: Undergraduate,
Bulletin 1957, #18, by Theresa B. Wilkins

Financial Aid for College Students: Graduate,
Bulletin 1959, #17, by Richard C. Mattingly

Feingold, Norman S., *Scholarships, Fellowships, and Loans*,
Cambridge, Mass.: Bellman Publishing Company, Inc., 1949
Vol. II, 1951; Vol. III, 1955

Rich, Wilmer Shields, *American Foundations and Their Fields*,
Seventh Edition, New York: American Foundations Informa-
tion Service, 1955

APPENDIX II.

Braille and Recorded Transcription Sources*

American Printing House for the Blind, Inc., 1839 Frankfort Avenue, Louisville, Kentucky (prints braille system books, magazines, and music; publishes *Readers' Digest* in braille and talking book editions; produces talking books, large type text books and recorded tapes)

Braille Circulating Library, 704 W. Grace Street, Richmond, Virginia (religious, evangelistic, biographical, and fictional subjects)

Jewish Braille Institute of America, Inc., 101 West 55th Street New York 19, New York (circulating record library; records text books, elementary and secondary school subjects; transcribes and records other special material)

Library of Congress, Division for the Blind, Washington 25, D. C. (supplies braille and sound recordings and reproducers for recordings, through 55 agencies for the blind, and 31 distributing libraries)

Lutheran Library for the Blind, 3558 S. Jefferson Avenue, St. Louis 18, Missouri (religious books in braille and talking book form)

National Braille Press, Inc., 88 St. Stephen Street, Boston 15, Massachusetts (volunteer service for transcription including music; soundscribing and tape recording)

Recording for the Blind, Inc., 127 East 58th Street, New York 22, New York (records, text books for blind college and vocational students free to those legally blind)

Swedenborg Foundation, Inc., 51 East 42nd Street, Room 1603, New York 17, New York (supplies braille and talking book transcriptions of Emanuel Swedenborg's writings and related works to the Library of Congress, other libraries and schools)

Volunteers Service for the Blind, Inc., 332 South 13th Street, Philadelphia 7, Pennsylvania (furnishes free braille transcriptions and sound recordings on disc and magnetic tape of text books and materials for colleges and music conservatories; business and professional persons; adults pursuing hobbies and adult education)

Xavier Society for the Blind, 154 East 23rd Street, New York 10, New York (free circulating library of hand-transcribed braille books and talking books)

* Taken from the *Directory of Agencies Serving Blind Persons in the United States and Canada*, American Foundation for the Blind, Inc., 1959.

APPENDIX III.

Statement of the American Foundation for the Blind Concerning Blind Persons and Competitive Employment

The American Foundation for the Blind believes that employment of qualified blind persons in the various competitive jobs and professions is not only feasible but also desirable. The Foundation further believes that the keen competition within these fields suggests the wisdom of having blind persons prepare for their vocational careers by completing the currently acceptable maximum standards of preparation for the chosen vocation.

The employment of any person in any job or profession is usually predicated upon the ability of that person to meet the current academic, experience, and competency prerequisites for the job. In the instance of a blind person, there is usually an evaluation of his demonstrated ability to meet the specifications of the job with efficiency equal to that of any individual employed in the same capacity. The Foundation believes it is desirable that this evaluation focus on the ability of the blind individual to meet the demands of the job or profession *as a whole* with full realization that while a blind person's methods may differ occasionally from the usual, the end result should always be satisfactory performance. This principle recognizes the individual differences in the competencies, skills, and abilities of persons regardless of physical handicap.

The Foundation is aware of the fact that sometimes employers or employing boards are not familiar with the performance of persons who happen to be blind. It is natural that these employers sometimes confuse the basic vocational competencies of blind persons with such other skills as mobility, ability to keep current on literature pertinent to the vocation, ability to maintain records, etc. The Foundation points out emphatically that the performance of duties ancillary to the basic vocation is the direct concern of the blind person entering the vocation, and that in choosing any vocation as a career, a blind person must automatically assume the responsibility of working out techniques and adaptations that may be necessitated by his blindness. Self-assumption of this phase of responsibilities by a blind person will do much to help potential employers distinguish between the really basic competencies and those other skills that may loom so large to the

uninitiated and may become an artificial but nonetheless very real barrier to employment. Further, the Foundation emphasizes the fact that personal problems caused by lack of sight are strictly the concern of the blind individual and not to be imposed upon either employer or colleagues.

The foregoing statement assumes that blind persons are a cross-section of the general population. It suggests that the same standards of selection and preparation apply to blind persons entering competitive jobs and professions as apply to others entering the same vocations. It places strong emphasis upon the responsibilities to be assumed by a blind person as part of his personal and vocational mastery of his handicap. In view of these considerations, the American Foundation for the Blind states unequivocally that any attempt—by statute, regulation, or practice—to bar a person from competitive jobs or professions because of blindness *per se* is arbitrary and not in harmony with the social concepts of integration of handicapped persons in our culture today.

APPENDIX IV.

Some Notes on Science for Blind Students and Teachers

by T. A. Benham

A prevalent but erroneous impression is that blind people should not enter into scientific pursuits either in college as students, as teachers, or in industry. The chief reason commonly given is that such handicapped persons cannot perform satisfactorily in the laboratory and cannot adequately manipulate technical apparatus. There are a sufficient number of successful blind scientists to belie this impression. Science is as much a matter of the mind as any other pursuit, and the functioning of the mind is not impaired by blindness. There are, however, some special problems which are discussed below.

Science Students

The four chief problems that the student encounters in science courses are: 1. deriving maximum information from classroom lectures and demonstrations; 2. doing homework that requires extensive calculations; 3. getting assignments read to him; and 4. performing and writing up the laboratory exercises. Many of these difficulties are handled in the same way that similar obstacles are handled in other fields of study.

Classroom work. For classroom work, it is recommended that a tape recorder be taken to class for recording the lectures, but the student should take notes in braille to assist him later in reviewing class material. After class, he should go over the recording, organize and elaborate on his notes in braille. This is absolutely necessary for efficient use of his time. When examination time comes around, it is not satisfactory to review tape recordings as this is far too slow. The well organized braille notes enable the student to review efficiently.

Demonstrations. The only important problem in the classroom is gaining sufficient instruction from blackboard work done by the professor. There are two techniques that will assist. Meet with the professor at the beginning of the term and acquaint him with the problem. Ask him to do what he can to call out what he is putting on the board. He may tend to think this will be a difficult task since he is not used to enunciating as he writes. Ask him to try and assure him that he will probably find that he can manage to say enough to give an adequate

picture of what he is doing. Ask him to number his equations and to refer to them by number when he points to a formula during the discussion. It is then necessary for the student to keep track of these numbers. Ask him to give some idea of what he is doing when drawing a picture or diagram. For example, if he is talking about vectors and says that there is a vector, ask him to say in which direction he has drawn it such as, "There is a vector pointing to the right." "From the right end of this vector we draw another pointing up to the right about forty-five degrees." This is not difficult for the professor to do and will aid tremendously in getting the diagram across to the blind student. Some professors may suggest that a few minutes spent with him either before class or after it would give him a chance to explain certain difficult concepts that are depicted on the board. The student should take advantage of such offers, but he should remember at all times that he must be as independent as possible so that he will learn ways of solving his problems when such opportunities are not available.

If the professor is going to have lecture-desk demonstrations, it is often possible for the student to come in a little early and be shown the apparatus by the professor, an assistant or a fellow student. This must be done with care, however, since the apparatus is often delicate or preadjusted. If adjustments are likely to be disturbed by this procedure, perhaps the professor will agree to an inspection after class.

Homework. The problem of getting reading assignments done is pretty much the same as for other subjects. The only special difficulty that presents itself is finding someone who can read and explain the diagrams and read the mathematical equations properly. Often another student in the same course can be found who is glad to have an opportunity to study with the blind student. Such a combination is frequently beneficial to both.

There are two ways of conveying the information contained in diagrams and graphs. One way is to reproduce the drawing with raised lines, and the other is to describe it in words.

Sometimes a diagram or graph can be explained most efficiently by means of a simple drawing. Cover a piece of quarter-inch plywood, measuring about $8\frac{1}{2} \times 11$ " with a piece of soft felt such as pool-table felt. Wrap the felt around the edge of the plywood and tack to the reverse side with $\frac{1}{4}$ " tacks. Using the board as a backing, the reader can then draw on a 4×6 " card or a piece of braille paper. He should use a pencil that is not too sharp and press harder than normal. In this way, the drawing will come out on the reverse side of the card and will be quite legible by touch. It must be remembered, however, that the diagram or graph will be reversed when the card is turned over. This can be taken into account when the reader makes the drawing, or the student can feel the raised lines without turning the card over.

If the student then marks the drawing with a few braille symbols, the card may be kept for future studying and review. If raised dotted lines are desired, a braille stylus may be used, punching the dots through the card into the felt-covered board. Labeling the points on the drawing in braille can be done freehand with the stylus after a little practice. This saves the time required to fit a braille slate and locate the proper spot to be labeled. Raised line drawings have to be made larger than the print equivalent so as to convey the detail to the student.

It is strongly recommended that the student learn to interpret such drawings because he must be thoroughly familiar with the techniques used by his sighted workers. Also, the number of words required to describe some drawings is extremely large. In fact, there are some drawings that defy adequate description. There are those who work with the blind who are firmly convinced that word descriptions are sufficient. We find that intelligently combining word descriptions and raised drawings gives the best results.

The following suggestions are presented for assisting the blind student to instruct a reader in the proper way to read equations and diagrams for the most rapid understanding.

$$x = \frac{a + b}{c - d}$$

"x equals the quantity *a* plus *b* close quantity over the quantity *c* minus *d* close quantity."

$$x = \frac{(a + b)^2}{\sqrt{c - d}}$$

"x equals the quantity *a* plus *b* quantity squared over the square root of the quantity *c* minus *d* close quantity."

$$x = \text{sine } (\omega T \phi)$$

"x equals the sine of the quantity omega *T* plus *phi* close quantity."

$$x = \log \left[\frac{(a + b)}{\sqrt{c - d}} \right] + 1$$

"x equals the natural logarithm of the bracket, quantity *a* plus *b* close quantity over the square root of the quantity *c* minus *d* close quantity, close bracket, plus one."

Complicated electrical circuits are best explained in words with the student copying in braille, if his memory cannot retain the detail. Putting the circuit into words requires practice on the part of the reader with suggestions from the student. Samples of both word descriptions of circuits and braille diagrams may be obtained from Science for the Blind, Haverford, Pennsylvania. The verbal material is recorded on magnetic tape and the raised line circuits are accompanied by a tape description to aid in becoming accustomed to the use and understanding of braille diagrams and graphs. Other examples of verbal descriptions are available from the Braille Technical Press, 984 Waring Avenue, New York 69, New York.

Laboratory. Laboratory work presents some special problems, a few

of which will be discussed. In physics and engineering, there are only a few difficulties that must be overcome. However, these are operational rather than conceptual. The blind student is just as capable as his sighted fellow students of comprehending the principles which the laboratory period is intended to emphasize. Only certain measurements and manipulations are difficult or impossible. It is therefore necessary for the student to find a sighted partner with whom he may work. A very large percentage of college laboratory periods are performed by two working as a team. If the sighted partner concentrates on doing what the blind person cannot do, and the blind student does those things which he can, the period will proceed smoothly and both partners will derive maximum benefit from the experiment.

It must be emphasized, however, that the blind student should exert himself to the utmost to become as familiar with every aspect of the experiment as possible. It may be desirable for him to accompany his partner to the laboratory before the scheduled period to acquaint himself with the apparatus and to think through the procedures to be followed. During the actual laboratory period he should record as much of his own data as possible, make sample calculations to see if things are going right and otherwise help his partner whenever he can. It is a good idea to consult with the professor of the course and the laboratory assistant at the beginning of the semester in order to point out to them that the blind student can enter into the experiments and that he will exercise intelligence, care and initiative. He should discuss with them the assignment of a cooperative partner and assure them that procedures can be worked out.

The blind student should write up his experiments in accordance with the course regulations working independently as much as possible. Drawing graphs, making diagrams and drawings will require assistance, but the student should be sure that he understands what is being done. In fact, he should direct the drawing supplying descriptions of how they are to be done and providing the numbers, etc. It might often be helpful to make a raised line drawing before attempting to direct the drawing of the finished ink version. Any problems connected with the laboratory experiment or associated with class assignments should be worked out by the student, and the results typed for the instructor's review.

In biology and chemistry, insurmountable problems may arise. For example, there is no substitute for looking through a microscope. The blind student will have difficulties in measuring out chemicals, viewing solutions for significant visual changes, etc. Dissection in biology will present difficulties. It is recommended that, if the student wishes to try such courses and that if the professor is cooperative, the student attend all laboratory sessions, enter into the activities wherever pos-

sible and have the laboratory partner describe what is taking place. It is worthwhile to become familiar with microscopes even though they cannot be used directly. A mental image of what is being seen through one as developed from a word description on the part of the partner is quite useful. It is obvious that a blind person is not going to be able to carry on in laboratory work in these fields, at least not completely, but there is no reason why the concepts cannot be mastered. There is no reason why a visually handicapped individual cannot become a director of the activities of sighted employees in some industrial plant or sighted students in an educational institution.

In many cases, the mental image and impression is the important result, not how that image or impression was obtained or created. If this point is kept in mind, the student may be able to convince the instructor that full laboratory credit should be issued even though he does not physically execute as many operations as his sighted partner.

Detailed calculations. One is often required to make detailed calculations in both homework and laboratory work. Braille slide rules that have been developed are not adequate. Approximations can be made mentally which are just about as accurate and are much faster than the use of the braille slide rule.

Certain commercial calculating machines can be equipped with braille dials so that precise and involved calculations can be made easily and rapidly. The best machine for this purpose is the Monroe model G, K or L. These machines are no longer manufactured so they must be found as trade-ins on new machines. Science for the Blind has converted several such machines. The price will vary, but it has been about \$125 complete.

Science for the Blind also supplies free of charge a loose leaf book entitled *Braille Notations and Tables*. This book contains such data as tables of four-place logarithms, trigonometric functions, hyperbolic and exponential relations, a table of integrals, atomic elements tables, etc. As additional material is prepared, sheets are sent to those who have requested the book so that they may be inserted in their copy.

The use of the braille slate or braille writer in making these calculations is almost essential. The braille slate offers some advantages over the braille writer because material can be read with one hand and copy with the other, which requires less mental effort, thus saving the power of concentration for the more important conceptual aspects of the problem being solved. If the braille slate is used an equation can be written, the paper is then removed from the slate, turned over and put back into the slate with the equation appearing right side up just above the slate. This enables the student to read the equation with the left hand while writing the next step with the right hand. The next step might be the substitution of numbers in the original equation.

Intelligent use of this flipping back and forth provides a useful technique for equation development, multiplication, addition, etc.

If the braille writer is used the paper does not have to be flipped over, but it is difficult to read with one hand and write with the other.

If a calculator is available the Taylor slate for arithmetic computations may be useful. This is available from the American Foundation for the Blind.

Employment. The question is often asked, "What can a college graduate with a major in science and who is blind find in the way of employment?" There is not a definite answer to this any more than there is to the question asked of any other field of study. No one can be sure of getting a job in a particular field of endeavor upon graduating from college, blind or sighted. History majors may become insurance salesmen; English majors may become housewives; language majors may become office managers. There is no reason to tell a blind person that he should not major in science because there are no job opportunities waiting for him after graduation. Let him follow his field of interest. A person studying the subject he likes is far more likely to do an outstanding job than one who is told what he must do.

For the student who does not go beyond the senior year in college in science, there is not much opportunity open to him for immediate employment in an important position whether he be sighted or blind. Science has reached the stage of development where graduate study is almost mandatory for a person to demand a responsible position. However, if the student does not wish to go beyond college, he is in an excellent position to become a business manager in a company dealing in scientific research, development, or the manufacturing of scientific instruments. His college science training will give him a much better appreciation for the problems that face his more technically trained personnel.

There is, however, a very rough road to traverse between college graduation and this managerial position. This period, perhaps four or five years, usually consists of laboratory type work in which the blind person will require the assistance of a technician. Many companies provide such technicians for their sighted employees, so no special dispensation need be made. The blind employee will have to have talent in the field of his choice and will have to exercise considerable initiative and ingenuity to surmount the special problems that will come up. After he has reached the level of attainment where he has an office, a secretary and authority to delegate responsibilities, there should be no further difficulties introduced because of blindness. This is assuming, of course, that he has sufficient skill to justify such a position. If he graduates from college with science as his major, but does not have the initiative to carry him through this period, he may

turn to some other field for earning his livelihood, just as majors in any other field. After all, it is not so much what one learns in college, it is the development of mental discipline, logical thought and acquiring the ability to sort out important from unimportant detail that is the goal of a college education.

Teaching is one of the most natural employment possibilities for a qualified blind student of science. It is true that graduate school is an absolute necessity at least as far as a masters degree, but the difficulties are not greater than those met in undergraduate studies. If the individual's mind is tuned to science, he should have no particular problem in getting suitable employment upon graduating.

Teaching Science

Most of the problems that a blind person will encounter on going into the teaching of science are the same as those for any other field. These matters are discussed elsewhere in this monograph. There are, however, a few pointers that pertain to science teaching that might be of some assistance in getting started.

The prospective blind science professor or teacher should have some manual dexterity so as to be able to manipulate apparatus gracefully and efficiently. Until facility has been acquired in performing demonstration experiments before the class or laboratory group, each demonstration should be tried and practiced. The performance should strive to eliminate awkward movements, losing track of pieces of apparatus and knocking over objects while moving the hands. The equipment should be layed out so that the teacher does not have to "grope" for it. Many of the demonstrations will require the reading of instruments such as a micrometer, callipers, meters, etc. If no way is available for making these measurements directly, during the experiment, they can be made ahead of time with a sighted assistant or the professor can call on a member of the class to step up and make the reading on the spot.

The latter technique adds life to the procedure, but it must be handled skillfully to avoid lost time and false readings. The teacher should know approximately what the result is going to be so he can question the reading when the student calls it out. If the experiment involves pouring chemicals and visual observation of results, the teacher may wish to show a student before class time what he wants done, have the experiment run through as a trial and then let the student perform the demonstration during class with the teacher as moderator and guide. This procedure should be used only when the demonstration offers some peculiar difficulties that are not readily overcome. Excessive use of the students might be construed as an indi-

cation that the blind teacher is not in full command of the situation.

During laboratory periods where the students are working at various benches in a large room, it is necessary for the teacher to go around from bench to bench to see if the students are progressing satisfactorily and to answer their questions. This requires familiarity with the "lay-out" and with the arrangement of the apparatus of each bench. When pointing out how to use a particular piece of equipment, it is often necessary to take hold of it and perform some manipulation. This should be done gracefully so as not to seem awkward or to embarrass the students. Often a few well chosen questions and statements will clear up a student's vague notions. Large machinery, chemicals and delicate instruments offer the greatest difficulties, but even these can be handled satisfactorily by a blind teacher if he knows the equipment well. There are many aids available from various sources that could be of assistance in performing laboratory experiments and class demonstrations. Information about these can be had from the American Foundation for the Blind, Science for the Blind, and the Braille Technical Press.

Frequently it is helpful to attach braille labels or braille markings to instruments that are used around the laboratory. These tags may be tied on, or glued on with rubber or duco cement. Dials of instruments such as oscillators, bridges and gauges may be marked with brailled scales. However, it should be emphasized that these markings should not interfere with the visual reading of the instrument. One way of accomplishing this is to put the braille on transparent material such as celluloid. Then the sighted operator can read the printed scale which is under the braille scale.

In the classroom, the blind science teacher has only one additional difficulty to face. This is the drawing of diagrams and writing of equations on the blackboard. Some of the techniques that might be used are discussed elsewhere in the monograph. Diagrams can be drawn well enough to convey the information to the class. One helpful suggestion might be to tell the class that they are expected to make a good copy of the material in their notebooks. In this way, they will correct slight errors that are in the blackboard drawing. A common error is the failure to close the diagram perfectly. The teacher should practice making these drawings with a sighted companion present to criticize the results. Drawing straight lines, right angles, triangles, squares, circles, simple electrical circuits, etc. makes good practice material.

Writing equations should be mastered so that the teacher can develop mathematical derivations for the student's benefit. It is best not to try to crowd too much in one blackboard section. Learn to leave ample space between lines. It is often helpful to hold the index finger of the left hand at a stopping point while an explanation is made so

that when it comes time to write or draw again the development can be continued in the correct place.

We have found aids such as bits of scotch tape, rubber suction cups, magnets and the like are not satisfactory. In order to find these "land marks" the blind teacher must rub the hand over the board to find his place. This is too much of a "blindism." It is sometimes helpful to place the eraser in the blackboard tray immediately beneath the spot where the next writing is to start and then remember at what level to start.

For complex drawings, the teacher may wish to prepare the material on bristol board ahead of class and hold it up at the appropriate time. These drawings may be marked with braille symbols to provide identifying reference points. Material prepared on slides is often useful and many times the class can be called upon to do the drawing at the board. They can also be called upon to come to the board to carry out a mathematical development. These techniques, if skillfully handled, can become an asset rather than a hindrance.

The blind teacher or student in science should have no more difficulties than are present in the other fields of endeavor, if initiative, ingenuity and imagination are exercised at all times. It must be kept in mind, however, that the individual must have native ability in science, a requirement which is the same for a sighted person.

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McCauley, W. Alfred

The blind person as a college teacher. c1961.

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